Subject Index

Abatement and removal

- Activated Carbon Addition to an Activated Sludge Model Reactor for Color Removal from a Cotton Textile Processing Watewater, 568
- Design and Operation of Point-of-Use Treatment System for Arsenic Removal, 509
- Effect of Soil Type on Electrokinetic Removal of Phenanthrene using Surfactants and Cosolvents, 482
- Electrochemical Pretreatment of Wastewater from Color Photograph Processing Unit, 567
- Eutrophication and Pathogen Abatement in the San Juan Bay Estuary, 480
- Four-Substrate Design Model for Single Sludge Predenitrification System, 488
- Influence of COD:N:P Ratio on Nitrogen and Phosphorus Removal in Fixed-Bed Filter, 476
- Lead Removal from Acidic Solutions by Sorption on Cocoa Shells: Effect of Some Parameters, 525
- Plasma-Assisted Process for Removing NO/NO, from Gas Streams with C₂H₄ as Additive, 537
- Removal of Antibiotics from Surface and Distilled Water in Conventional Water Treatment Processes, 8
- Removal of Mercury from Low-Concentration Aqueous Streams using Chemical Reduction and Air Stripping, 539
- Removal of Metals and Radionuclides using Apatite and Other Natural Sorbents, 500

Abrasive

Abrasion-Porosity-Strength Model for Fly Ash Concrete, 1009

Absorbers

- Nondestructive Evaluation of Tuned-Mass-Damper-Type Vibration Absorbers using Vibration Signatures, 1028
- Numerical Modeling of Wave Absorbers for Physical Wave Tanks, 1428

Absorption

Kinetic Study on Absorption of SO₂ and NO with Acidic NaClO₂ Solutions using the Spraying Column, 557

Abutments

- Analysis of Arch Dams using Coupled Trial Load and Block Element Methods, 672
- Investigations of Blocks in Foundations and Abutments of Concrete Dams, 588

Acceleration

Validation of Vibration-Based Onboard Asphalt Density Measuring System, 197

Accident prediction

- Impact of Dynamic and Safety-Conscious Route Guidance on Accident Risk, 1327
- Predictive Tool for Estimating Accident Risk, 246

Acid mine water

One-Step Ambient Temperature Ferrite Process for Treatment of Acid Mine Drainage Waters, 460

Acids

Amphoteric Effect of Humic Acids in Surfactant-Aided Photolysis of Polychlorobiphenyls, 528

- Assessment of Self-Compacting Concrete Immersed in Acidic Solutions, 1003
- Biogeochemical Evaluation of Mechanisms Controlling CaCO_{3co} Precipitation in Landfill Leachate-Collection Systems, 529
- Floc Characteristics and Removal of Turbidity and Humic Acid from High-Turbidity Storm Water, 511
- Hydrofluoric Acid Recovery from Waste Semiconductor Acid Solution by Ion Exchange, 498
- Laboratory Pilot Test of Chromium (III) Isolation from Acid Extract of Tannery Sludge, 1468
- Modeling Water and Sulfuric Acid Transport through Coated Cement Concrete, 331
- Reduction of Fulvic Acid in Drinking Water by Ferrate, 445

Acoustic detection

- Assessing Damage of Reinforced Concrete Beam using "b-value" Analysis of Acoustic Emission Signals,
- Failure Process of Granite, 20
- Signal-Based Acoustic Emission Techniques in Civil Engineering, 993
- Ultrasonic Imaging of Concrete Elements using Reconstruction by Synthetic Aperture Focusing Technique,

Acoustic measurement

- Design of Piezoresistive MEMS-Based Accelerometer for Integration with Wireless Sensing Unit for Structural Monitoring, 49
- Experimental and Numerical Investigation of Cutter Head Dredging Flows, 1450

Acoustics

- Architectural Engineering 2003 Building Integration Solutions, 1607
- Fractionation and Segregation of Suspended Particles using Acoustic and Flow Fields, 492

Activated carbon

- Activated Carbon Addition to an Activated Sludge Model Reactor for Color Removal from a Cotton Textile Processing Watewater, 568
- Adsorption–Desorption Rate of Nonpolar Volatile Organic Compounds onto Activated Carbon Exemplified by C₆H₆ and CCI₄, 1477
- Control of Total Chloro-s-Triazines in Conventional Drinking Water Treatment Plants, 1491
- Removal of Oil Grease and Chemical Oxygen Demand from Oily Automotive Wastewater by Adsorption after Chemical De-emulsification, 1478
- Stabilization/Solidification of High Mercury Wastes with Reactivated Carbon, 1465
- Thermal Behavior of Activated Carbon Cloths Heated by Joule Effect, 569

Activated sludge

- Activated Carbon Addition to an Activated Sludge Model Reactor for Color Removal from a Cotton Textile Processing Watewater, 568
- Comparison of Bacterial Bioluminescence with Activated Sludge Oxygen Uptake Rates during Zinc Toxic Shock Loads in a Wastewater Treatment System, 546

Activated sludge

Dissolved Oxygen-State Titration Respirometry: Principle of Operation and Validation, 515

Four-Substrate Design Model for Single Sludge Predenitrification System, 488

Modeling and Control of Oxygen Transfer in High Purity Oxygen Activated Sludge Process, 489

Nitrification in Pure Oxygen Activated Sludge Systems, 457

Active control

Applications of Some Semiactive Control Systems to Benchmark Cable-Stayed Bridge, 1169

"Convexifying" Linear Matrix Inequality Methods for Integrating Structure and Control Design, 1179

Experiments on a Full-Scale Building Model using Modified Sliding Mode Control, 325

Instantaneous Optimal Wilson-Θ Control Method, 418
Nonlinear Control Methodologies for Hysteresis in
PZT Actuated On-Rlude Flevons, 55

PZT Actuated On-Blade Elevons, 55 Novel Semiactive Friction Controller for Linear Struc-

tures against Earthquakes, 1175 Reliability of Applied Semiactive Structural Control System, 1172

Semiactive Tuned Liquid Column Dampers: Experimental Study, 1177

Switching Oil Damper with Built-in Controller for Structural Control, 1170

Adaptive systems

Adaptive Optimization of Infrastructure Maintenance and Inspection Decisions under Performance Model Uncertainty, 854

Reinforcement Learning for the *True* Adaptive Traffic Signal Control, 1316

Adhesives

Short Term Testing of Hybrid T Beam Made of New Prepreg Material, 172

Adjustment

Modeling for Width Adjustment in Alluvial Rivers, 735

Admixtures

Carbonation of Concrete Containing Mineral Admixtures, 976

Complex Dielectric Permittivity of Soil-Organic Mixtures (20 MHz-1.3 GHz), 483

Correlation of Rheological Properties to Durability and Strength of Hardened Concrete, 1007

Effects of Mineral Admixture on Properties of Young Concrete, 1013

Reuse of Incinerator Fly Ash in Soft Soil Stabilization, 1001

Substitution of Fly Ash, Slag, and Chemical Admixtures in Concrete Mix Designs, 1033

Adsorbents

Removal of Oil Grease and Chemical Oxygen Demand from Oily Automotive Wastewater by Adsorption after Chemical De-emulsification, 1478

Adsorption

Adsorption of Negatively Charged Azo Dyes onto Surfactant-Modified Sepiolite, 527

Adsorption—Desorption Rate of Nonpolar Volatile Organic Compounds onto Activated Carbon Exemplified by C₆H₆ and CCI₄, 1477

Arsenic Removal from Groundwater by Iron Impregnated Sand, 453 Multivariate Study on Phenanthrene Sorption in Soils, 564

Removal of Metals and Radionuclides using Apatite and Other Natural Sorbents, 500

Removal of Oil Grease and Chemical Oxygen Demand from Oily Automotive Wastewater by Adsorption after Chemical De-emulsification, 1478

Treatment of Stagnant Zones in Riverine Advection-Dispersion, 743

Advection

Advection Tests of Optimal Compact Implicit Scheme, 736

Aeration

Effect of Lateral Deflector on Outlet Cavity Lengths, 751

Hydraulic Design of Stepped Spillways, 762

Modeling and Control of Oxygen Transfer in High Purity Oxygen Activated Sludge Process, 489

Aerial photography

FPGA Based Satellite Adaptive Image Compression System, 52

Geographic Information System Data for Supporting Feature Extraction from High-Resolution Aerial and Satellite Images, 1281

Aerobic processes

Aerobic Biodegradation of Methyl Tert-Butyl Ether in Gasoline-Contaminated Aquifer Sediments, 520

Anaerobic Treatment of Synthetic Textile Wastewater Containing a Reactive Azo Dye, 514

Aerodynamics

Aerodynamic Loads on Tall Buildings: Interactive Database, 1123

Aeroelastic Analysis of Bridges: Effects of Turbulence and Aerodynamic Nonlinearities, 380

Aeroelastic Balance, 315

Efficacy of Tuned Mass Dampers for Bridge Flutter Control, 1210

Aeroelasticity

Aeroelastic Balance, 315

Curve Veering of Eigenvalue Loci of Bridges with Aeroelastic Effects, 300

Possio Integral Equation of Aeroelasticity Theory, 53

Aggregates

Effect of Aggregate Spacing on Skid Resistance of Asphalt Pavement, 1333

Fatigue Behavior of a Pavement Foundation with Recycled Aggregate and Waste HDPE Strips, 638

Recent Advances in Materials Characterization and Modeling of Pavement Systems, 1633

Thermal Stabilization of Iron-Rich Sludge for High Strength Aggregates, 1030

Agricultural engineering

Performance Indices for Surface N Fertigation, 878

Agricultural watersheds

Evaluation of Neural Networks for Modeling Nitrate Concentrations in Rivers, 1425

Air conditioning

Architectural Engineering 2003 - Building Integration Solutions, 1607

Economizer Application in Dual-Duct Air-Handling Units, 68

SUBJECT INDEX

Algorithms

Air flow

Influence of Diffuser Jet Characteristics on Indoor Air Distribution under Actual Connecting Conditions, 70 Possio Integral Equation of Aeroelasticity Theory, 53

Air Force

Flying High, 1599

Air pollution

Biotrickling Filtration for Control of Volatile Organic Compounds from Microelectronics Industry, 516

Kinetic Study on Absorption of SO₂ and NO with Acidic NaClO₂ Solutions using the Spraying Column, 557

Modeling Immune Building Systems for Bioterrorism Defense, 64

Plasma-Assisted Process for Removing NO/NO, from Gas Streams with C₂H₄ as Additive, 537

Probabilistic Nonroad Mobile Source Emission Factors, 461

Regional Analysis of Nonmethane Volatile Organic Compounds in the Lower Troposphere of the Southeast United States, 570

Statistical Prediction of Atmospheric Corrosion from Atmospheric-Pollution Parameters, 1483

Thermal Treatment for Incinerator Ash: Evaporation and Leaching Rates of Metals, 473

Air stripping

Counterflow Method for Measurement of Henry's Law Constants, 578

Removal of Mercury from Low-Concentration Aqueous Streams using Chemical Reduction and Air Stripping, 539

Air temperature

Study of Methods to Control Frost Action in Cold Regions Tunnels, 124

Air water interactions

Effect of Jet Air Content on Plunge Pool Scour, 730

Airblas

Composite Reinforcement to Strengthen Existing Concrete Structures against Air Blast, 167

Use of Composite Reinforcement to Strengthen Concrete and Air-Entrained Concrete Masonry Walls against Air Blast, 168

Aircraft

Flying High, 1599

Propylene Glycol Deicer Biodegradation Kinetics: Anaerobic Complete-Mix Stirred Tank Reactors, Filter, and Fluidized Bed, 456

Airport runways

Preparing for Takeoff, 1570

Airport terminals

Preparing for Takeoff, 1570

Airports

Airport Choice, Leakage, and Experience in Single-Airport Regions, 1308

A Culvert for Abram Creek, 1597

Preparing for Takeoff, 1570

Alabama

A Better Barrier, 1575

Effect of Bridge Deck Thickness on Properties and Behavior of Bridge Decks, 1502 Performance of Bonded Bridge Deck Overlays in Alabama, 1493

Alaska

Shaken, 1555

Algae

Modeling Approach to Periphyton and Nutrient Interaction in a Stream, 541

Algorithms

Algorithm for Generating Samples of Homogeneous Gaussian Fields, 288

Ant Colony Optimization for Design of Water Distribution Systems, 1399

Automated Design of Steel Frames using Advanced Analysis and Object-Oriented Evolutionary Computation, 1147

Automated Path Planning of Cooperative Crane Lifts Using Heuristic Search, 147

Computational Analysis of Quality Reduction during Drying of Lumber due to Irrecoverable Deformation. II: Algorithmic Aspects and Practical Application, 392

Conceptual Building Design—Evolutionary Approach, 142

Criteria-Based Decision Support System for Selecting Highway Alignments, 1287

Damage Detection Based on Single-Input-Single-Output Measurements, 306

Delaunay Triangulation Algorithms Useful for Multibeam Echosounding, 1267

Detention Pond Design and Land Use Planning for Watershed Management, 1389 Efficacy of Genetic Algorithm to Investigate Small

Scale Aquitard Leakage, 750
Estimating Characteristics of Rainfall and their Effects on Sampling Schemes: Case Study for Han River Basin, Korea, 814

Estimation of Aquifer Parameters from Pumping Test
Data by Genetic Algorithm Optimization Technique,

Fast Automatic Incident Detection on Urban and Rural Freeways using Wavelet Energy Algorithm, 1290

Flexural Design of Reinforced Concrete Frames by Genetic Algorithm. 1159

Flexural Design of Reinforced Concrete Frames using a Genetic Algorithm, 1095

Genetic Algorithms in Competitive Environments, 141 Genetic Optimization for Dynamic Project Control, 242 Instantaneous Optimal Wilson-Θ Control Method, 418

Knowledge-Based System on Optimum Design of Liquid Retaining Structures with Genetic Algorithms,

Multiobjective Sampling Design for Water Distribution Model Calibration, 1422

Network Reserve Capacity under Influence of Traveler Information, 1314

Nonlinear Error Propagation Analysis for Explicit Pseudodynamic Algorithm, 376

Object-Oriented Evolutionary Fuzzy Neural Inference System for Construction Management, 250

On-Line Measure of Shockwaves for ITS Applications, 1283

Optimal Scheduling of Multiple Chlorine Sources in Water Distribution Systems, 1424

Optimal Time Transfer in Bus Transit Route Network Design using a Genetic Algorithm, 1345

Algorithms

Optimization of Water Distribution Network Design using the Shuffled Frog Leaping Algorithm, 1400

Optimizing Urban Water Supply Headworks using Probabilistic Search Methods, 1414

Parallel Processing Techniques in Structural Engineering Applications, 1252

Particle Image Velocimetry System with Self-Organized Feature Map Algorithm, 407

Performance Comparison of Automatic Vehicle Identification and Inductive Loop Traffic Detectors for Incident Detection, 1355

Phantom Float, 255

Resource Optimization using Combined Simulation and Genetic Algorithms, 276

Scour Vulnerability of River Bridge Piers, 663

Study of Applying Macroevolutionary Genetic Programming to Concrete Strength Estimation, 156

A Study of Two Stochastic Search Methods for Structural Control, 140

Subset Simulation and its Application to Seismic Risk Based on Dynamic Analysis, 382

Substructural Identification Method without Interface Measurement, 367

Transit Route Network Design using Frequency Coded Genetic Algorithm, 1305

Treatment of Natural Geometry in Finite Volume River Flow Computations, 733

Alignment

Analytical Model to Determine the Influence of Horizontal Alignment of Two-Axle Heavy Vehicles on Upgrades, 1353

Criteria-Based Decision Support System for Selecting Highway Alignments, 1287

Effect of Vertical Alignment on Driver Perception of Horizontal Curves, 1331

Allov

Mechanical Properties of Lead Alloys in Compression, 999

Alluvial channels

Bedload Transport in Alluvial Channels, 773

Role of Resistance Coefficient in Seasonal Adjustments in Alluvial Rivers, 787

Total Load Transport Formula for Flow in Alluvial Channels, 699

Alluvial streams

Bedload Transport in Gravel-Bed Streams with Unimodal Sediment, 785

Modeling for Width Adjustment in Alluvial Rivers, 735

Aluminum

Experimental and Numerical Prediction of Collapse of Flatbar Stiffeners in Aluminum Panels, 1101

Repair of Cracked Aluminum Overhead Sign Structures with Glass Fiber Reinforced Polymer Composites, 170

Strength Curves for Metal Plates in Compression, 1225 Ultimate Compressive Strength of Aluminum Plate Elements, 1226

Anaerobic digestion

Granular Bed Baffled Reactor (Grabbr): Solution to a Two-Phase Anaerobic Digestion System, 562

Use of an Anaerobic Sludge Digestion Process to Treat Pentachlorophenol-(PCP-) Contaminated Soil, 572

2003 ASCE TRANSACTIONS

Anaerobic filters

Anaerobic Treatment of High Sulfate Wastewater with Oxygenation to Control Sulfide Toxicity, 571

Anaerobic processes

Anaerobic Treatment of High Sulfate Wastewater with Oxygenation to Control Sulfide Toxicity, 571

Biodegradation of Mixtures of Phenolic Compounds in an Upward-Flow Anaerobic Sludge Blanket Reactor, 560

Analog models

Deflection of Metal Plate Connected Wood Trusses with Nontriangulated Openings, 1238

Analysis

Analysis of Arch Dams using Coupled Trial Load and Block Element Methods, 672

Analysis of Construction Worker Fall Accidents, 228

Dynamics of Cable Structures, 303

Preliminary Analysis of Suspension Bridges, 1

Analytical techniques

Analytical Methods used to Measure Endocrine Disrupting Compounds in Water, 1486

Dam-Breach Flood Wave Propagation using Dimensionless Parameters, 772

Two Main Methods for Yield Line Analysis of Slabs, 308

Anchorages

Inspection and Process of Tension of Cables of General Rafael Urdaneta Bridge, 96

Anchors

Performance of Tension and Compression Anchors in Weathered Soil, 690

Suction Caisson Capacity in Anisotropic, Purely Cohesive Soil, 34

Three-Dimensional Lower Bound Solutions for Stability of Plate Anchors in Clay, 602

Uplift Behavior of Blade-Underreamed Anchors in Silty Sand, 632

Anisotropic materials

Poromechanics of Anisotropic Hollow Cylinders, 419

Anisotropy

Effects of Cross Anisotropy on Three-Dimensional Behavior of Sand. I: Stress-Strain Behavior and Shear Banding, 301

Effects of Cross Anisotropy on Three-Dimensional Behavior of Sand. II: Volume Change Behavior and Failure, 302

Aquatic habitats

Unleashing the Flow, 1572

Aquifers

Aerobic Biodegradation of Methyl Tert-Butyl Ether in Gasoline-Contaminated Aquifer Sediments, 520

Aquifer Response to Linearly Varying Stream Stage,

Bioslurping Model for Assessing Light Hydrocarbon Recovery in Contaminated Unconfined Aquifer. 1: Simulation Analysis, 1474

Bioslurping Model for Assessing Light Hydrocarbon Recovery in Contaminated Unconfined Aquifer. II: Optimization Analysis, 1475

Conjunctive-Management Models for Sustained Yield of Stream-Aquifer Systems, 1383 Effects of Aquifer Anisotropy on the Migration of Infiltrated Stream Water to a Pumping Well, 831

Efficacy of Genetic Algorithm to Investigate Small Scale Aquitard Leakage, 750

Estimation of Aquifer Diffusivity from Stream Stage Variation, 801

Estimation of Aquifer Parameters from Pumping Test Data by Genetic Algorithm Optimization Technique, 897

Explicit Estimation of Aquifer Diffusivity from Linear Stream Stage, 742

Field-Data Analysis for Stream Depletion, 824

Flow Depletion of Semipervious Streams Due to Pumping, 907

Secondary Benefits of Aquifer Storage and Recovery: Disinfection By-Product Control, 490

Storage Coefficient and Transmissivity from Residual Drawdowns, 759

Unsteady Stream Depletion when Pumping from Semiconfined Aquifer, 800

Water Level Measurement Locations for Coastal Aquifer Management, 1384

Water Table Profiles and discharges for an Inclined Ditch-Drained Aquifer under Temporally Variable Recharge, 869

Aramid

Use of Composite Reinforcement to Strengthen Concrete and Air-Entrained Concrete Masonry Walls against Air Blast, 168

Arbitration

Multistep Dispute Resolution in Design and Construction Industry, 1066

Arches

Geometry of Submerged Funicular Arches in Cartesian Coordinates, 1189

Shapes of Submerged Funicular Arches, 297

Architect/engineers

The Bowers Program: Effects of Cross-Disciplinary Design Activities on Architectural Engineering Student Performance, 67

Here Comes the Judge—Duties and Responsibilities of Design Proffessionals When Deciding Disputes, 1076

Process-Parameter-Interface Model for Design Management, 271

Architectural engineering

Architectural Engineering 2003 - Building Integration Solutions, 1607

The Bowers Program: Effects of Cross-Disciplinary Design Activities on Architectural Engineering Student Performance, 67

Principles and Practice of Engineering: Architectural Engineering Sample Questions and Solutions, 1631

Architecture

Great Hall, 1579

Light of L.A., 1544

Work of Art, 1576

Arid lands

History and Evaluation of Hargreaves Evapotranspiration Equation, 865

Nonparametric Approach for Estimating Return Periods of Droughts in Arid Regions, 826

Arizona

100-Ton (890 kN) Rock Anchor Pullout Test, 1496

Cost-Benefit Analysis of Residential Energy-Efficiency Upgrades in Phoenix, Arizona, 58

Method for Forensic Analysis of Residential Floor-Elevation Data, 1047

Wide Open, 1602

Army

Submerged Ordnance and Unrestrained Cylinder Movement in Coastal Zone, 1442

Aromatic hydrocarbons

Retention and Distribution of 1-Naphthol and Naphthol Polymerization Products on Surface Soils, 565

Arsenic

Arsenic Removal from Groundwater by Iron Impregnated Sand, 453

Design and Operation of Point-of-Use Treatment System for Arsenic Removal, 509

Evaluation of Leaching Tests for Cement Based Immobilization of Hazardous Compounds, 519

Artificial intelligence

Computer Assistance in Managing the Maintenance of Low-Slope Roofs, 150

Multiagent System for Construction Claims Negotiation, 145

An Ontology for Relating Features with Activities to Calculate Costs, 151

Parameter Estimation in Groundwater Hydrology using Artificial Neural Networks, 155

ASCE

Comparison of Reference Evapotranspiration Calculations as Part of the ASCE Standardization Effort, 906

ASCE Activities

ASCE History and Heritage Programs, 1058

ASCE Awards & Prizes

Constitutive Behavior of Geosynthetic Interfaces, 10

Evaluation of Numerical Models of Flood and Tide Propagation in Channels, 4

Load and Resistance Factor Design of Timber Joints: International Practice and Future Direction, 3

Local, Distortional, and Euler Buckling of Thin-Walled Columns, 2

Preliminary Analysis of Suspension Bridges, 1

Probabilistic Basis for 2000 SAC Federal Emergency Management Agency Steel Moment Frame Guidelines, 6

Removal of Antibiotics from Surface and Distilled Water in Conventional Water Treatment Processes, 8

Seismic Damage and Collapse Assessment of Composite Moment Frames, 7

Standardized Membrane Pore Size Characterization by Polyethylene Glycol Rejection, 9

Unified Modeling Methodology for Construction Simulation, 11

ASCE Code of Ethics

Depending on Character: ASCE Shapes its First Code of Ethics, 1059

ASCE Publications

Transactions of the American Society of Civil Engineers 2002, 1645

ASCE Younger Members

Employment History Survey of ASCE's Younger Members, 916

Ashes

Cementing Material from Calcium Carbide Residue-Rice Husk Ash, 1017

Effects of Kiln Ash on the Compressibility of Residual Lateritic Soils, 554

Maize-cob Ash as Filler in Concrete, 985

Simulation of Municipal Solid Waste Incinerator Ash/ Cement Systems by Means of Factorial Experiments, 566

Asia

System Dynamics Approach to Exploring Performance Enhancement in a Construction Organization, 257

Asphalt mixes

100-mm-Diameter Mold Used with Superpave Gyratory Compactor, 967

Crumb Rubber-Bitumen Interactions: Cold-Stage Optical Microscopy, 1011

Fatigue and Healing Characterization of Asphalt Mixtures, 969

Recent Advances in Materials Characterization and Modeling of Pavement Systems, 1633

Asphalt pavements

100-mm-Diameter Mold Used with Superpave Gyratory Compactor, 967

Dielectric Properties of Asphalt Pavement, 1012

Effect of Aggregate Spacing on Skid Resistance of Asphalt Pavement, 1333

Finite Element Studies of Asphalt Concrete Pavement Reinforced with Geogrid, 371

Method for Performing Accelerated Characterization of Viscoelastic Constitutive Behavior of Asphaltic Concrete, 1021

Paving Machine Improvments, 1339

Recent Advances in Materials Characterization and Modeling of Pavement Systems, 1633

Asphaltic concrete

Construction Quality Control for Asphalt Concrete Hydraulic Barriers, 599

Method for Performing Accelerated Characterization of Viscoelastic Constitutive Behavior of Asphaltic Concrete, 1021

Asphalts

Application of FTIR-ATR to Characterization of Bitumen Rejuvenator Diffusion, 979

Engineering Properties of Fiber Reinforced Cold Asphalt Mixes, 555

Formulation of Mix Design for Asphaltic Incorporation of Hydrocarbon Contaminated Soil, 980

Optimum Compaction Temperature for Modified Binders, 1347

Quantitative Effect of Elastomeric Modification on Binder Performance at Intermediate and High Temperatures, 963

Use of the Asphalt Pavement Analyzer and Repeated Simple Shear Test at Constant Height to Augment Superpave Volumetric Mix Design, 1346

Validation of Vibration-Based Onboard Asphalt Density Measuring System, 197

Assessments

Assessment of Highway Bridge Upgrading by Dynamic Testing and Finite-Element Model Updating, 89

Dissolved Oxygen-State Titration Respirometry: Principle of Operation and Validation, 515

Reliability-Based Assessment of Suspension Bridges: Application to the Innoshima Bridge, 5

Attenuation

Aerobic Biodegradation of Methyl Tert-Butyl Ether in Gasoline-Contaminated Aquifer Sediments, 520

Australia

Benchmarking, Benchaction, and Benchlearning: Rework Mitigation in Projects, 956

Coupling an Underflow Model to a Three-Dimensional Hydrodynamic Model, 769

Evaluation of Leaching Tests for Cement Based Immobilization of Hazardous Compounds, 519

Lagoon Effluent Treatment using Grass Filtration, 563

Modeling Tropical Cyclone Wave Population of the Great Barrier Reef, 1439

Performance in International Construction Joint Ventures: Modeling Perspective, 267

Reducing Car Travel in Australian Cities: Review Report, 1372

Two-Dimensional Simulation Model for Contour Basin Layouts in Southeast Australia. I: Rectangular Basins, 893

Two-Dimensional Simulation Model for Contour Basin Layouts in Southeast Australia. II: Irregular Shape and Multiple Basins, 894

Austria

Island in the Mur, 1591

Automatic identification systems

Particle Image Velocimetry System with Self-Organized Feature Map Algorithm, 407

Performance Comparison of Automatic Vehicle Identification and Inductive Loop Traffic Detectors for Incident Detection, 1355

Automation

Automated Sewer and Drainage Flushing Systems in Cambridge, Massachusetts, 719

Building Project Model Support for Automated Labor Monitoring, 129

Can Labor Inputs be Measured and Controlled Auto-

Can Labor Inputs be Measured and Controlled Automatically?, 247

Construction Robot Path-Planning for Earthwork Operations, 136

Singapore on the Move, 1596

Automobiles

Application of System Dynamics in Car-Following Models, 1358

Exploiting Motor Vehicle Information and Communications Technology for Transportation Engineering, 1340

Reducing Car Travel in Australian Cities: Review Report, 1372

Sustainability and Urban Public Transportation (Twelfth Francis C. Turner Lecture), 1323

Axial compression

Buckling and Postbuckling of Antisymmetrically Laminated Cross-Ply Shear-Deformable Cylindrical Shells under Axial Compression, 295 Time-Dependent Deformation of Pultruded Fiber-Reinforced Polymer Composite Columns, 195

Axial loads

Creep Analysis of Axially Loaded Fiber Reinforced Polymer-Confined Concrete Columns, 422

Drift Capacity of Rectangular Reinforced Concrete Columns with Low Lateral Confinement and High-Axial Load, 1156

Influence of Long-Term Loads on Concrete Column Strength, 1500

Nonlinear Analysis of Axially Loaded Concrete-Filled Tube Columns with Confinement Effect, 1213

Performance of Axially Loaded Short Rectangular Columns Strengthened with Carbon Fiber-Reinforced Polymer Wrapping, 179

Plastic Resistance of Pipe Sections: Upper Bound Solution, 1088

Stability Criteria for Euler Columns with Intermediate and End Axial Loads, 335

Axial strain

Analytical Fire Resistance of Axially Restrained Steel Columns, 1236

Backfills

AUA Guidelines for Backfilling and Contact Grouting of Tunnels and Shafts. 1609

Use of Waste Materials for Control of Acid Mine Drainage and Subsidence, 549

Backwater

Applicability of Kinematic, Noninertia, and Quasi-Steady Dynamic Wave Models to Unsteady Flow Routing, 757

Bacteria

Airborne Bacteria Control under Chamber and Test-Home Conditions, 466

Bacterial Leaching of Metals from Tannery Sludge by Indigenous Sulphur-Oxidizing Bacteria—Effect of Sludge Solids Concentration, 503

Comparative Study of Two Bioassays for Applications in Influent Wastewater Toxicity Monitoring, 468

Toxicity Estimation of Phenolic Compounds by Bioluminescent Bacterium, 481

Banding

Control of Wave Propagation in Sandwich Plate Rows with Periodic Honeycomb Core, 389

Strain Localization in Sand: Plane Strain versus Triaxial Compression, 625

Bangladesh

Construction of a Bridge in a Developing Country: A Bangladesh Case Study, 934

Barrier design

Design, Construction, and Operation of Tailored Permeable Reactive Barriers, 1490

Barrier islands

Vulnerability Indicators for Coastal Dunes, 1458

Barriers

A Better Barrier, 1575

Construction Quality Control for Asphalt Concrete Hydraulic Barriers, 599

The Creeping Storm, 1569

Flexible Porous Wave Barrier for Enhanced Wetlands Habitat Restoration, 284 Geotechnical Study for Hydraulic Barrier System at Tailings Pond, 1479

Innovative Waste Containment Barriers for Subsurface Pollution Control, 1466

In-Service Performance Evaluation of Bullnose Median Barriers in Iowa, 1291

Bars

Bond between Carbon Fiber Reinforced Polymer Bars and Concrete. I: Experimental Study, 174

Bond between Carbon Fiber Reinforced Polymer Bars and Concrete. II: Computational Modeling, 175

Base isolation

"Bizxiality Effect" on the Energy Dissipated by Elastoplastic Base-Isolators, 349

Fault Tolerance of Semiactive Seismic Isolation, 1173

Moment Equation Analysis of Base-Isolated Buildings Subjected to Support Motion, 294

Basins

Flood Forecasts for Urban Basin with Integrated Hydro-Meteorological Model, 799

Two-Dimensional Simulation Model for Contour Basin Layouts in Southeast Australia. 1: Rectangular Basins, 893

Two-Dimensional Simulation Model for Contour Basin Layouts in Southeast Australia. II: Irregular Shape and Multiple Basins, 894

Bayesian analysis

Calibration of Flow and Transport Model with a Bench-Scale Prefabricated Vertical Drain Remediation System, 585

Integrated Approach to Total Maximum Daily Load Development for Neuse River Estuary using Bayesian Probability Network Model (Neu-BERN), 1404

Liquid Volume Fluxes in Stratified Multiphase Plumes. 786

Updating Properties of Nonlinear Dynamical Systems with Uncertain Input, 285

Bays

Three-Dimensional Modeling of Tidal Circulation in Bay of Fundy, 1440

Beach erosion

Vulnerability Indicators for Coastal Dunes, 1458

Beach nourishment

Portable Meter System for Dry Weight Control in Dredging Hoppers, 1436

Beaches

Urban Beaches: Balancing Public Rights and Private Development, 1646

Beam columns

Experimental Investigation of FRP-Strengthened RC Beam-Column Joints, 161

Experimental Study and Calculation of Fire Resistance of Concrete-Filled Hollow Steel Columns, 1119

Hybrid Beam-Column Element with End Frictional Joints, 344

Modeling Reinforced-Concrete Beam-Column Joints Subjected to Cyclic Loading, 1251

Beams

Assessing Damage of Reinforced Concrete Beam using "b-value" Analysis of Acoustic Emission Signals, 994 Asymptotic Matching Analysis of Scaling of Structural Failure Due to Softening Hinges. I: Theory, 353

Asymptotic Matching Analysis of Scaling of Structural Failure Due to Softening Hinges. II: Implications, 354

Behavior of Concrete Beams Strengthened with Fiber-Reinforced Polymer Laminates under Impact Loading, 180

Behavior of Reinforced Concrete Beams with Loss of Bond at Longitudinal Reinforcement, 1219

Considerations of Multimode Structural Response for Near-Field Earthquakes, 334

Cracked Membrane Model: Finite Element Implementation, 1196

Cross-Sectional Compactness and Bracing Requirements for HPS483W Girders, 1240

Design and Construction of a Bridge in Very High Performance Fiber-Reinforced Concrete, 104

Dimensional Analysis of Reinforced Concrete Beams Subjected to Pure Torsion, 1239

Effect of Creep and Shrinkage on RC Frames with High Beam Stiffness, 1136

Effect of Reduced Beam Section Frame Elements on Stiffness of Moment Frames, 1122 Experimental and Analytical Behavior of Carbon

Fiber-Based Rods as Flexural Reinforcement, 164

Experimental Investigation of Bonded Fiber Reinforced Polymer-Concrete Joints under Cyclic Loading, 171

Flexural Behavior and Deformability of Fiber Reinforced Polymer Prestressed Concrete Beams, 186

Flexural Behavior of R/C Beams Strengthened with Carbon Fiber Reinforced Polymer Sheets or Fabric, 188

Fracture Model for Flexural Failure of Beams Retrofitted with CARDIFRC, 394

Interactive Failure of Two Impacting Beams, 383

Investigation of Bond in Concrete Structures Strengthened with Near Surface Mounted Carbon Fiber Reinforced Polymer Strips, 183

Lateral Buckling Strengths of Steel Angle Section Beams, 1161

Lateral-Torsional Buckling of Stepped Beams, 1228

Local Buckling of Fiber-Reinforced Plastic Composite Structural Members with Open and Closed Cross Sections, 1233

Local Effects Induced by Longitudinal Forces in Composite Girders, 100

Nonlinear Vibration Characteristics of Damaged Concrete Beams, 1112

Numerical Evaluation of Uniform Beam Modes, 439 Potential for Structural Failure in the Seismic Near Field, 384

Reinforced Concrete T-Beams Strengthened in Shear with Fiber-Reinforced Polymer Sheets, 189

Retrofitting of Reinforced Concrete Beams with CAR-DIFRC, 176

Shear Capacity of Fiber-Reinforced Polymer-Strengthened Reinforced Concrete Beams: Fiber Reinforced Polymer Rupture, 1144

Short Term Testing of Hybrid T Beam Made of New Prepreg Material, 172

Static and Fatigue Behavior of Reinforced Concrete Beams Strengthened with Steel Plates for Flexure, 1135 Structural Ductility in Hybrid High Performance Steel Beams, 1241

Theoretical Study on Short-Term and Long-Term Deflections of Fiber Reinforced Polymer Prestressed Concrete Beams, 187

Vibration of Timoshenko Beams with Internal Hinge, 316

Vibratory Characteristics of Timoshenko Beams with Arbitrary Number of Cracks, 427

Beams, supports

Shear Compression Failure in Reinforced Concreted Deep Beams, 1137

Bearing capacity

Calculations of Bearing Capacity Factor $d_{\rm v}$ using Numerical Limit Analyses, 623

Cold-Formed Steel Channels Subjected to Concentrated Bearing Load, 1181

Computation of Bearing Capacity Factor N_y— Terzaghi's Mechanism, 23

Determination of Bearing Capacity of Open-Ended Piles in Sand, 582

Enlarged Base (Belled) Piles for Use in Ice or Ice-Rich Permafrost, 121

Estimation of Load Capacity of Pipe Piles in Sand Based on Cone Penetration Test Results, 617

Examples of Settlement in Structures Constructed on Tidal Silt in Coastal Areas of Southeast China, 1508

Experimental Investigations of Bailey Bridges, 109 Finite Element Studies of Asphalt Concrete Pavement

Reinforced with Geogrid, 371
Inclination Factors for Seismic Bearing Capacity, 660

Lateral Load Capacity of Drilled Shafts in Jointed Rock, 646 Numerical Study of the Effect of Preloading on Undrained Bearing Capacity, 12

Residual Life of Corroding Reinforced Concrete Structures in Marine Environment, 1002

Scour Vulnerability of River Bridge Piers, 663
Tension Buckling in Multiplayer Elastomeric Bearings,

Thermal Effects on Skewed Steel Highway Bridges and Bearing Orientation, 77

Understanding Capacity Rating of Bridges from Load Tests, 1515

Bed load

Bed-Load Transport Equation for Sheet Flow, 709

Bedload Transport in Alluvial Channels, 773

Bedload Transport in Gravel-Bed Streams with Unimodal Sediment, 785

Experimental Study of Bed Load Transport through Emergent Vegetation, 744

Influence of Turbulence on Bed Load Sediment Transport, 755

Measurements of Sediment Erosion and Transport with the Adjustable Shear Stress Erosion and Transport Flume, 782

Particle Densimetric Froude Number for Estimating Sediment Transport, 738

Role of Wave Pressure in Bedload Sediment Transport, 1455

Urban Storm Sewer Design: Approach in Consideration of Sediments, 723

Validation of Existing Bed Load Transport Formulas using In-Sewer Sediment, 727

Bed load movement

- Closed-Conduit Bed-Form Initiation and Development, 791
- Influence of Turbulence on Bed Load Sediment Transport, 755

Bed ripples

- Closed-Conduit Bed-Form Initiation and Development, 791
- Sand Transport on Steeply Sloping Plane and Rippled Beds, 766

Bed roughness

- Closed-Conduit Bed-Form Initiation and Development, 791
- Response of Velocity and Turbulence to Sudden Change of Bed Roughness in Open-Channel Flow,

Bedrock

Case History of Damage to a School Building Caused by Differentially Heaving Bedrock, 1046

Beds

- Effects of Weakly Nonlinear Water Waves on Soft Poroelastic Bed with Finite Thickness, 307
- Fluctuations of Turbulent Bed Shear Stress, 298
- Laminar Water Wave and Current Passing over Porous Bed, 355

Bench marks

- Applications of Some Semiactive Control Systems to Benchmark Cable-Stayed Bridge, 1169
- Benchmarking, Benchaction, and Benchlearning: Rework Mitigation in Projects, 956
- Can Labor Inputs be Measured and Controlled Automatically?, 247
- Phase I Benchmark Control Problem for Seismic Response of Cable-Stayed Bridges, 1167
- Scorecard Approach to Benchmarking Organizational Safety Culture in Construction, 207
- Sliding Mode Control of Cable-Stayed Bridge Subjected to Seismic Excitation, 291
- Using Benchmarks and Metrics to Evaluate Project
 Delivery of Environmental Restoration Programs,
 211

Bending

- Dynamic Bending Strains in Planar Trusses with Pinned or Rigid Joints, 320
- Flexural Behavior of R/C Beams Strengthened with Carbon Fiber Reinforced Polymer Sheets or Fabric, 188
- Influence of Long-Term Loads on Concrete Column Strength, 1500
- Lateral Buckling Strengths of Steel Angle Section Beams, 1161
- Testing of Steel Pipes under Bending, Twist, and Shear, 1216

Bending moments

- Behavior of Pile Groups Subject to Excavation-Induced Soil Movement, 583
- Calculation of Moments on Top Slab in Single-Cell Box Girders, 1098
- Curvature and Bending Moments from Inclinometer Data, 18
- Single Piles in Lateral Spreads: Field Bending

Benefit cost ratios

- Analysis of Costs and Benefits of Tall Buildings, 245
- Cost-Benefit Analysis of Residential Energy-Efficiency Upgrades in Phoenix, Arizona, 58
- Evaluating Disaster Mitigations: Methodology for Urban Infrastructure Systems, 1540

Bentonite

- Case History of Damage to a School Building Caused by Differentially Heaving Bedrock, 1046
- Evaluation of Illinois Pulverized Coal Combustion Dry Bottom Ash for Use in Geotechnical Engineering Applications, 279
- Innovative Waste Containment Barriers for Subsurface Pollution Control, 1466

Best management practice

- Costs of Best Management Practices and Associated Land for Urban Stormwater Control, 1385
- Ecology Ditch: A Best Mangement Practice for Storm Water Runoff Mitigation, 811
- Interactive Effects of Controlled Drainage and Riparian Buffers on Shallow Groundwater Quality, 868 Smart Growth: Hydrologic Perspective, 1072

Bibliographies

- Strategic Management: Consideration of Paradoxes, Processes, and Associated Concepts as Applied to Construction, 960
- Transactions of the American Society of Civil Engineers 2002, 1645

Bicycles

- Friction Measurement on Cycleways using a Portable Friction Tester, 119
- Travel Characteristics of Commuters Accessing Transit: Case Study, 1365

Bids

- Competitive Bid versus Negotiated Bid in Commercial Construction Industry—One Contractor's Perspective, 1506
- Evaluating and Comparing Bidding Optimization Effectiveness, 231

Binders, materials

- Hydration Mechanisms, Microstructure, and Mechanical Properties of Mortars Prepared with Mixed Binder Cement Slurry-Asphalt Emulsion, 966
- Quantitative Effect of Elastomeric Modification on Binder Performance at Intermediate and High Temperatures, 963

Biodegradation

- Aerobic Biodegradation of Methyl Tert-Butyl Ether in Gasoline-Contaminated Aquifer Sediments, 520
- Biodegradation of Mixtures of Phenolic Compounds in an Upward-Flow Anaerobic Sludge Blanket Reactor,
- Propylene Glycol Deicer Biodegradation Kinetics: Anaerobic Complete-Mix Stirred Tank Reactors, Filter, and Fluidized Bed, 456
- Rate Parameters for Methyl tert-Butyl Ether Biodegradation via a Radial Diffusion Model, 510
- Relationship of Compressibility Parameters to Municipal Solid Waste Decomposition, 691

Biofilm

- Efficacy of Biofilms under Toxic Conditions, 512
- Instability of Hydrocarbon Films over Mineral Surfaces: Microscale Experimental Studies, 573

Biological treatment

Biological treatment

Biological Wastewater Treatment and Estrogenic Endocrine Disrupting Compounds: Importance of Colloid Organic Carbon, 1492

Combined System for Biological Removal of Nitrogen and Carbon from a Fish Cannery Wastewater, 540

Comparison of Bacterial Bioluminescence with Activated Sludge Oxygen Uptake Rates during Zinc Toxic Shock Loads in a Wastewater Treatment System, 546

Excess Sludge Production in Membrane Bioreactors: A Theoretical Investigation, 477

Total and Volatile Polyaromatic Hydrocarbon Losses during Aerobic Slurry Phase Biotreatment, 1482

Biomass

Dissolved Oxygen-State Titration Respirometry: Principle of Operation and Validation, 515

Bitumen

Application of FTIR-ATR to Characterization of Bitumen Rejuvenator Diffusion, 979

Crumb Rubber-Bitumen Interactions: Cold-Stage Optical Microscopy, 1011

Blasting

The Pentagon Building Performance Report, 1629 The Pentagon Report, 1549

Blocks

Development of Efficient Stilling Basins for Pipe Outlets, 880

Investigations of Blocks in Foundations and Abutments of Concrete Dams, 588

Keyblock Stability in Seismically Active Rock Slopes—Snake Path Cliff, Masada, 645

Laboratory-Based Productivity Study on Alternative Masonry Systems, 225

Boilers

Influence of Different Cleaning Conditions on Cleaning Performance of Pilot-Scale Pulse-Jet Baghouse, 538

Bolts

Behavior and Modeling of a Bolt Bearing on a Single Plate, 1162

Ultrasonic Guided Waves for Inspection of Grouted Tendons and Bolts, 986

Bond stress

Scale Transition in Steel-Concrete Interaction. 1: Model, 328

Bonding

Behavior of Reinforced Concrete Beams with Loss of Bond at Longitudinal Reinforcement, 1219

Bond Behavior of Corroded Steel Reinforcement in Concrete Wrapped with Carbon Fiber Reinforced Polymer Sheets, 1004

Bond between Carbon Fiber Reinforced Polymer Bars and Concrete. I: Experimental Study, 174

Bond between Carbon Fiber Reinforced Polymer Bars and Concrete. II: Computational Modeling, 175

Bond Geometry and Shear Strength of Steel Plates Bonded to Concrete on Heating, 1031

Environmental Effects on the Short-Term Bond of Carbon Fiber-Reinforced Polymer (CFRP) Composites, 163

Experimental Investigation of Bonded Fiber Reinforced Polymer-Concrete Joints under Cyclic Loading, 171

Failure Behavior and Separation Criterion for Strengthened Concrete Members with Steel Plates, 1200

Heterogeneous Strain and Bonded Granular Structure Change in Triaxial Specimen Studied by Computer Tomography, 421

Investigation of Bond in Concrete Structures Strengthened with Near Surface Mounted Carbon Fiber Reinforced Polymer Strips, 183

Poststrengthening of Concrete Slabs: Full-Scale Testing and Design Recommendations, 1157

Processing Effects in Cementitious Composites: Extrusion and Casting, 983

Quantitative Description of the Pull-Out Behavior of Crimped Yarns from Cement Matrix, 1025

Retrofitting of Reinforced Concrete Beams with CAR-DIFRC, 176

Tension Stiffening and Cracking of Steel Fiber-Reinforced Concrete, 981

Bonding strength

Performance of Bonded Bridge Deck Overlays in Alabama, 1493

Border irrigation

Evaluation of Various Surface Irrigation Numerical Simulation Models. 882

Boreholes

In Situ Estimate of Shear Wave Velocity using Borehole Spectral Analysis of Surface Waves Tool, 629

Boring

Tunnel Boring Machines, 1509

Boston

The Big Dig's Big Dig, 1584

Decision Support System for Adaptive Water Supply Management, 1396

Keeping It Rolling, 1583

Urban Beaches: Balancing Public Rights and Private Development, 1646

Bottom ash

Development of Bottom Ash as Pozzolanic Material, 965

Evaluation of Illinois Pulverized Coal Combustion Dry Bottom Ash for Use in Geotechnical Engineering Applications, 279

Thermal Treatment for Incinerator Ash: Evaporation and Leaching Rates of Metals, 473

Boundary conditions

Bed Shear Stress Boundary Condition for Storage Tank Sedimentation, 521

Impact of Vertical, Turbulent, Planar, Negatively Buoyant Jet with Rigid Horizontal Bottom Boundary, 697

Modeling Groundwater Flow under Transient Nonlinear Free Surface, 812

Second-Order Radiation Boundary Condition for Water Wave Simulation with Large Angle Incidence, 434

Boundary element method

Contaminant Transport in Fissured Soils by Three-Dimensional Boundary Elements, 19

Integration within Polygonal Finite Elements, 39

Nonlinear Response of Fluid-Filled Membrane in Gravity Waves, 364

Boundary layer

- Particle Image Velocimetry Measurements within a Laboratory-Generated Swash Zone, 403
- Periodic Diffusional Mass Transfer near Sediment/ Water Interface: Theory, 495
- Postbuckling of Pressure-Loaded Functionally Graded Cylindrical Panels in Thermal Environments, 330

Boundary processes

Effects of Weakly Nonlinear Water Waves on Soft Poroelastic Bed with Finite Thickness, 307

Bounding surface

Inelastic Cyclic Model for Steel Braces, 342

Boussinesq equations

- Water Table Profiles and discharges for an Inclined Ditch-Drained Aquifer under Temporally Variable Recharge, 869
- Wave Simulations in Ponce de Leon Inlet using Boussinesq Model, 1441

Box beams

Matrix Analysis of Shear Lag and Shear Deformation in Thin-Walled Box Beams, 386

Box columns

Strength of Concrete Filled Steel Box Columns Incorporating Interaction Buckling, 1145

Box girders

- Calculation of Moments on Top Slab in Single-Cell Box Girders, 1098
- Inspection and Process of Tension of Cables of General Rafael Urdaneta Bridge, 96
- Live-Load Distribution Factors for Concrete Box-Girder Bridges, 103
- Stability of Slender Webs of Prestressed Concrete Box-Girder Bridges, 86
- Worthy Successor, 1593

Braced excavation

Undrained Stability of Braced Excavations in Clay, 648

Bracing

- Cross-Sectional Compactness and Bracing Requirements for HPS483W Girders, 1240
- Design of Retrofitting for Damaged Rectangular Hollow Sectioned Struts, 1182
- Inelastic Cyclic Model for Steel Braces, 342
- Lateral-Torsional Buckling of Stepped Beams, 1228
- Preliminary Analysis of High-Rise Braced Frames with Facade Riggers, 1146
- Seismic Response of Concentrically Braced Steel Frames Made with Rectangular Hollow Bracing Members, 1245
- Structural Ductility in Hybrid High Performance Steel Beams, 1241
- Temperature Correction and Strut Loads in Central Artery Excavations, 626
- Tests of Cold-Formed Circular Tubular Braces under Cyclic Axial Loading, 1133

Brazil

- Effects of Kiln Ash on the Compressibility of Residual Lateritic Soils, 554
- Erosion Hazards Index for Lateritic Soils, 1528
- Geotechnical Aspects of Eroded Sediments Relevant to Tailings Disposal Design, 1525
- Optimization of Large-Scale Hydropower System Operations, 1397

Breaking waves

- Beach-Profile Evolution under Spilling and Plunging Breakers, 1432
- Energy Balance Model for Breaking Solitary Wave Runup, 1433
- Laboratory Measurements of Void Fraction and Turbulence in the Bore Region of Surf Zone Waves, 411

Breakwate

- Hydrodynamic Performance Characteristics of Quadrant Front-Face Pile-Supported Breakwater, 1430
- Tentative New Formula for Maximum Horizontal Wave Forces Acting on Perforated Caisson, 1431

Brick masonry

Lateral Stiffness of Brick Masonry Intilled Plane Frames, 1187

Bricks

- Laboratory-Based Productivity Study on Alternative Masonry Systems, 225
- Properties of Field Manufactured Cast-Concrete Products Utilizing Recycled Materials, 1008

Bridge abutments

- Assessment of Shear Forces on Bridge Abutments: Simplified Method, 74
- Coherent Structures in Flat-Bed Abutment Flow; Computational Fluid Dynamics Simulations and Experiments, 710

Bridge construction

- Construction of a Bridge in a Developing Country: A Bangladesh Case Study, 934
- Design and Construction of a Bridge in Very High Performance Fiber-Reinforced Concrete, 104
- Evaluation of Cone Penetration Test-Based Settlement Prediction Methods for Shallow Foundations on Cohesionless Soils at Highway Bridge Construction Sites, 664
- High Performance Materials in Bridges, 1622
- Improving Labor Flow Reliability for Better Productivity as Lean Construction Principle, 227
- Role of Workforce Management in Bridge Superstructure Labor Productivity, 939

Bridge decks

- Dynamic Behavior of Orthotropic Rectangular Plates under Moving Loads, 292
- Effect of Bridge Deck Thickness on Properties and Behavior of Bridge Decks, 1502
- Filament-Wound Glass Fiber Reinforced Polymer Bridge Deck Modules, 185
- Full-Scale Fatigue Tests of Steel Orthotropic Decks for the Williamsburg Bridge, 108
- Identification of Environmental Categories for Markovian Deterioration Models of Bridge Decks, 111
- LRFD Orthotropic Plate Model for Live Load Moment in Filled Grid Decks, 73
- Nonlinear Finite-Element Analysis for Highway Bridge Superstructures, 90
- Performance of Bonded Bridge Deck Overlays in Alabama, 1493
- Practical Tool to Accurately Estimate Tensile Stresses in Concrete Bridge Decks to Control Transverse Cracking, 1501
- Prediction of Remaining Service Life of Bridge Decks using Machine Learning, 127
- Wrapper Methods for Inductive Learning: Example Application to Bridge Decks, 132

Bridge design

Bridge design

Design and Construction of a Bridge in Very High Performance Fiber-Reinforced Concrete, 104

Design for Shear in Curved Composite Multiple Steel Box Girder Bridges, 87

Design of Highway Bridges: Natural Place for CBR, 144

Full-Scale Testing of Procedures for Assembling Trunnion-Hub-Girder in Bascule Bridges, 94

High Performance Materials in Bridges, 1622

Island in the Mur. 1591

Tuned Mass Dampers for Dual-Mode Buffeting Control of Bridges, 98

Bridge failure

Analysis of Recent Bridge Failures in the United States, 1051

Multiple Limit States and Expected Failure Costs for Deteriorating Reinforced Concrete Bridges, 116

Predicting Truck Load Spectra under Weight Limit Changes and its Application to Steel Bridge Fatigue Assessment, 107

Bridge inspection

Analysis of Recent Bridge Failures in the United States, 1051

Fiber Optic Sensors for Bridge Monitoring, 112

Inspection of Luling Bridge Cable Stays: Case Study, 224
Updating Bridge Reliability Based on Bridge Management Systems Visual Inspection Results, 113

Bridge maintenance

Analysis of Edge-Detection Techniques for Crack Identification in Bridges, 152

Analysis of Recent Bridge Failures in the United States, 1051

As-Built Information Model for Bridge Maintenance, 137

Life-Cycle Performance of Deteriorating Structures: Assessment, Design and Management, 1623

Scour Vulnerability of River Bridge Piers, 663

Supply and Demand System Approach to Development of Bridge Management Strategies, 853

Cyclic Testing of Built-Up Steel Shear Links for the New Bay Bridge, 1163

Bridges

Bridge towers

Aeroelastic Analysis of Bridges: Effects of Turbulence and Aerodynamic Nonlinearities, 380

Atmospheric Corrosion Resistance of Structural Steels, 961

Audacious and Elegant 19th Century Porto Bridges, 1516

Bridge Construction in Guatemala: Linking Social Issues and Engineering, 1071

Constructability Considerations for Balanced Cantilever Construction, 1499

Corrosion Condition Evaluation at Muddy Creek Bridge, 1057

Cyclic Testing of Built-Up Steel Shear Links for the New Bay Bridge, 1163

Efficacy of Tuned Mass Dampers for Bridge Flutter Control, 1210

Enduring Strength, 1586

2003 ASCE TRANSACTIONS

Environmental Impacts to Design/Build Projects—A Case Study of the St. George Island Bridge Replacement, Apalachicola Bay, Florida, 926

Experimental Investigations of Bailey Bridges, 109

External Prestressing Concrete Columns for Improved
Seismic Shear Resistance, 1186

Fatigue Performance of Modular Bridge Expansion Joints, 1053

Florida DOT Project-Level Bridge Management Models, 110

Full-Scale Test of Seismic Cable Restrainer Retrofits for Simply Supported Bridges, 92

Hydrodynamic Loading on River Bridges, 781

Island in the Mur. 1591

Life-Cycle Reliability-Based Maintenance Cost Optimization of Deteriorating Structures with Emphasis on Bridges, 1165

Location of Prestressing Steel Fractures in Concrete, 988

Noncontract Photogrammetric Measurement of Vertical Bridge Deflection, 95

Nondestructive Evaluation of Tuned-Mass-Damper-Type Vibration Absorbers using Vibration Signatures, 1028

Proposed Design Method for Thermal Bridge Movements, 72

Rating and Reliability of Existing Bridges in a Network, 114

Rehabilitation of Bridge Superstructures via the Addition of Girder Lines. I: Theoretical Considerations, 1510

Rehabilitation of Bridge Superstructures via the Addition of Girder Lines. II: Practical Considerations, 1511

Understanding Capacity Rating of Bridges from Load Tests, 1515

Worthy Successor, 1593

Bridges, arch

Construction Control of Reinforced Concrete Arch Bridges, 75

Bridges, box girder

Design for Shear in Curved Composite Multiple Steel Box Girder Bridges, 87

Bridges, cable-stayed

Applications of Some Semiactive Control Systems to Benchmark Cable-Stayed Bridge, 1169

Conceptual Design for the Sunniberg Bridge, 84

Control of Seismically Excited Cable-Stayed Bridge Employing Magnetorheological Fluid Dampers,

First of Its Kind, 1581

Inspection and Process of Tension of Cables of General Rafael Urdaneta Bridge, 96

Inspection of Luling Bridge Cable Stays: Case Study, 224

Neural Networks for Decentralized Control of Cable-Stayed Bridge, 97

Optimization of Cable Tensioning in Cable-Stayed Bridges, 85

Phase I Benchmark Control Problem for Seismic Response of Cable-Stayed Bridges, 1167

Probabilistic Strength Estimates and Reliability of Damaged Parallel Wire Cables, 106

Regal Crossing, 1574

Sliding Mode Control of Cable-Stayed Bridge Subjected to Seismic Excitation, 291

Bridges, cantilever

Niagara Canitlever, 71

Bridges, composite

Deflection Requirements for Bridges Constructed with Advanced Composite Materials, 79

Design for Shear in Curved Composite Multiple Steel Box Girder Bridges, 87

Financial Viability of Fiber-Reinforced Polymer (FRP) Bridges, 938

Bridges, concrete

Bridge Falsework Productivity—Measurement and Influences, 226

Effects of Seismically Induced Pounding at Expansion Joints of Concrete Bridges, 414

Live-Load Distribution Factors for Concrete Box-

Live-Load Distribution Factors for Concrete Box-Girder Bridges, 103

Multiple Limit States and Expected Failure Costs for Deteriorating Reinforced Concrete Bridges, 116

Performance Evaluation of Reinforced Concrete Bridge Columns Wrapped with Fiber Reinforced Polymers, 166

State of Practice for Positive Moment Connections in Prestressed Concrete Girders Made Continuous, 102

Unbonded Posttensioned Concrete Bridge Piers. 1: Monotonic and Cyclic Analyses, 81

Unbonded Posttensioned Concrete Bridge Piers. II: Seismic Analyses, 82

Bridges, girder

Finite-Element Analysis of Steel Bridge Distortion-Induced Fatigue, 101

Finite-Element Modeling of Heat-Curved I-Girders, 88

Live-Load Distribution Factors for Concrete Box-Girder Bridges, 103

Natural Frequency of Railway Girder Bridges under Vehicle Loads, 93 Nondestructive Crack Detection Algorithm for Full-

Scale Bridges, 1217 Stability of Slender Webs of Prestressed Concrete Box-Girder Bridges, 86

Bridges, highway

Assessment of Highway Bridge Upgrading by Dynamic Testing and Finite-Element Model Updating, 89

Design of Highway Bridges: Natural Place for CBR, 144

Model Validation for Bridge-Road-Vehicle Dynamic Interaction System, 83

Nonlinear Finite-Element Analysis for Highway Bridge Superstructures, 90

Reconstructed With Precision, 1548

Thermal Effects on Skewed Steel Highway Bridges and Bearing Orientation, 77

Updating Bridge Reliability Based on Bridge Management Systems Visual Inspection Results, 113

Bridges, lift

Keeping It Rolling, 1583

Bridges, pedestrian

Footbridge: Project to Implement Management Functions at AASTMT, 1062

Bridges, piers

Design Method of Time-Dependent Local Scour at Circular Bridge Pier, 737

Inelastic Behavior and Ductility Capacity of Reinforced Concrete Bridge Piers under Earthquake. I: Theory and Formulation, 1201

Inelastic Behavior and Ductility Capacity of Reinforced Concrete Bridge Piers under Earthquake. II: Numerical Validation, 1202

Scour Vulnerability of River Bridge Piers, 663

Unbonded Posttensioned Concrete Bridge Piers. 1: Monotonic and Cyclic Analyses, 81

Unbonded Posttensioned Concrete Bridge Piers. II: Seismic Analyses, 82

Bridges, railroad

Natural Frequency of Railway Girder Bridges under Vehicle Loads, 93

Niagara Canitlever, 71

Bridges, skew

Load Distribution Factors in Simply Supported Skew Bridges, 99

Thermal Effects on Skewed Steel Highway Bridges and Bearing Orientation, 77

and bearing

Bridges, spans Curve Veering of Eigenvalue Loci of Bridges with Aeroelastic Effects, 300

Repair of New Long-Span Bridges Damaged by the 1995 Kobe Earthquake, 1056

Tuned Mass Dampers for Dual-Mode Buffeting Control of Bridges, 98

Bridges, steel

Design for Shear in Curved Composite Multiple Steel Box Girder Bridges, 87

Determining Appropriate Fatigue Inspection Intervals for Steel Bridge Members, 78

Finite-Element Analysis of Steel Bridge Distortion-Induced Fatigue, 101

Finite-Element Modeling of Heat-Curved I-Girders, 88 Measurement and Analysis of Distortion-Induced

Fatigue in Multigirder Steel Bridges, 80 Nonlinear Behavior of Heavy Class Steel Truss Bridges, 1192

Predicting Truck Load Spectra under Weight Limit Changes and its Application to Steel Bridge Fatigue Assessment, 107

Thermal Effects on Skewed Steel Highway Bridges and Bearing Orientation, 77

Bridges, suspension

Audacious and Elegant 19th Century Porto Bridges, 1516

Dynamic Response of Suspension Bridge to High Wind and Running Train, 76

Increasing the Load Capacity of Suspension Bridges, 105

Niagara Canitlever, 71

Preliminary Analysis of Suspension Bridges, 1

Reliability-Based Assessment of Suspension Bridges: Application to the Innoshima Bridge, 5

Bridges, truss

Stability of Slender Webs of Prestressed Concrete Box-Girder Bridges, 86

Bridges, viaduct

Assessment of Performance of Seismic Isolation System of Bolu Viaduct, 91

Bridges, wooden

Application of Dynamic System Identification to Timber Bridges, 1096

Brittle failure

Shear Analysis of Concrete with Brittle Reinforcement, 191

Buckling

Beam Web Strength under Pairs of Concentrated Compression Loads, 1495

Buckling and Postbuckling of Antisymmetrically Laminated Cross-Ply Shear-Deformable Cylindrical Shells under Axial Compression, 295

Buckling of Columns with Intermediate Elastic Restraint, 310

Buckling of Vertical Cylindrical Shells under Combined End Pressure and Body Force, 379

Compression Tests of Channels with Inclined Simple Edge Stiffeners, 1222

Cross-Sectional Compactness and Bracing Requirements for HPS483W Girders, 1240

Dynamic Stability of Laminated Composite Curved Panels with Cutouts, 416

Effect of Base Fixity on Buckling of Heavy Column with End Load. 296

Effects of Stiffeners on Nonlinear Stability of Self-Erecting Dome, 1089

Elastic Stability and Second-Order Analysis of Three-Dimensional Frames: Effects of Column Orientation, 417

Exact Buckling Solutions for Rectangular Plates under Intermediate and End Uniaxial Loads, 375

Exact Solutions for Buckling of Multispan Rectangular Plates, 304

Experimental and Numerical Prediction of Collapse of Flatbar Stiffeners in Aluminum Panels, 1101

Experimental Investigation of Cold-Formed Stainless Steel Columns, 1102 Experimental Study on Steel Shear Wall with Slits,

Form Finding of Sparse Structures with Continuum

Topology Optimization, 1253 Imperfection Sensitivity of Laminated Cylindrical Shells According to Different Shell Theories, 396

Inelastic Cyclic Model for Steel Braces, 342

Large-Deflection Deformation of Ferromagnetic Plates in Magnetic Fields, 311

Lateral Buckling Strengths of Steel Angle Section Beams, 1161

Lateral-Torsional Buckling of Stepped Beams, 1228 Local Buckling of Composite Fiber-Reinforced Plastic Wide-Flange Sections, 1097

Local Buckling of Fiber-Reinforced Plastic Composite Structural Members with Open and Closed Cross Sections, 1233

Local Buckling Tests on Cold-Formed Steel Beams, 1242

Local, Distortional, and Euler Buckling of Thin-Walled Columns, 2

Local Web Buckling Strength of Coped Steel I Beams, 1084

Nonlinear Buckling Simulations of Imperfect Chell Domes by Mixed Finite Elements, 361 Numerical Evaluation of Uniform Beam Modes, 439

Plastic Torsional Buckling of Cruciform Compression Members, 359

Ritz Buckling Analysis of Rectangular Plates with Internal Hinge, 358

Seismic Response of Concentrically Braced Steel Frames Made with Rectangular Hollow Bracing Members, 1245

Stability Criteria for Euler Columns with Intermediate and End Axial Loads, 335

Steel-Concrete Composite Plate Girders Subject to Shear Loading, 1204

Strength of Concrete Filled Steel Box Columns Incorporating Interaction Buckling, 1145

Structural Ductility in Hybrid High Performance Steel Beams, 1241

Tension Buckling in Multiplayer Elastomeric Bearings, 428

Testing of Steel Pipes under Bending, Twist, and Shear, 1216

Thermal Postbuckling of Uniform Columns on Elastic Foundation—Intuitive Solution, 426

Ultimate Compressive Strength of Aluminum Plate Elements, 1226

Vibration of Timoshenko Beams with Internal Hinge, 316

Budgets

Optimal Fund-Allocation Analysis for Multidistrict Highway Agencies, 858

Buffeting

Aeroelastic Analysis of Bridges: Effects of Turbulence and Aerodynamic Nonlinearities, 380

Tuned Mass Dampers for Dual-Mode Buffeting Control of Bridges, 98

Building codes

Minimum Design Loads for Buildings and Other Structures, 1627

Seismic Evaluation of Existing Buildings, 1637 Shear Compression Failure in Reinforced Concreted

Deep Beams, 1137
Toward Load and Resistance Factor Design for Fiber-

Reinforced Polymer Composite Structures, 1127 Building design

Architectural Engineering 2003 - Building Integration Solutions, 1607

The Benefits of Virtual Building Tools, 1582

The Bowers Program: Effects of Cross-Disciplinary Design Activities on Architectural Engineering Student Performance, 67

Center of Attention, 1564

Conceptual Building Design—Evolutionary Approach, 142

Designing Facilities Management Needs into Infrastructure Projects: Case from a Major Hospital, 1041

Development of Boundary Structures for Complex-Shaped Buildings, 59

Flying High, 1599

Great Hall, 1579

Integrated Development of Facilities Design and Services, 1038

An Ontology for Relating Features with Activities to Calculate Costs, 151

Pushing the Envelope, 1556

- Sustainability in Public Facilities: Analysis of Guidance Documents, 1037
- An Unconventional Approach, 1594

Building frames

- Flexural Design of Reinforced Concrete Frames by Genetic Algorithm, 1159
- Potential Thermal Degradation of Attic Framing and Wood Sheathing, 1514
- Preliminary Analysis of High-Rise Braced Frames with Facade Riggers, 1146
- Statistics of Single-Degree-of-Freedom Estimate of Displacement for Pushover Analysis of Buildings, 1128
- Tests to Structural Collapse of Single Degree of Freedom Frames Subjected to Earthquake Excitations, 1250

Building

- Adaptive Fuzzy Control for Nonlinear Building-Magnetorheological Damper System, 1171
- Building Project Model Support for Automated Labor Monitoring, 129
- Damping Evaluation using Full-Scale Data of Buildings in Japan, 1129
- Dynamics of a Class of Horizontal Setback Buildings, 401
- Experimental Seismic Study of Adjacent Buildings with Fluid Dampers, 1105
- Experimental Study on Steel Shear Wall with Slits, 1141
- Experiments on a Full-Scale Building Model using Modified Sliding Mode Control, 325
- Influence of Diffuser Jet Characteristics on Indoor Air Distribution under Actual Connecting Conditions, 70
- Moment Equation Analysis of Base-Isolated Buildings Subjected to Support Motion, 294
- Strategies of Extended Producer Responsibility for Buildings, 847
- Study of Recent Building Failures in the United States, 1052
- Study on Damping Reduction Factor for Buildings under Earthquake Ground Motions, 1106
- Variable-Frequency Drive Applications in Nonmakeup-Air Exhaust Systems, 69
- Wind Speeds in ASCE 7 Standard Peak-Gust Map: Assessment, 1125

Buildings, high-rise

- Aerodynamic Loads on Tall Buildings: Interactive Database, 1123
- Aeroelastic Balance, 315
- Analysis of Costs and Benefits of Tall Buildings, 245
- Considerations of Multimode Structural Response for Near-Field Earthquakes, 334 Effect of Creep and Shrinkage on RC Frames with
- Effect of Creep and Shrinkage on RC Frames with High Beam Stiffness, 1136
- Preliminary Analysis of High-Rise Braced Frames with Facade Riggers, 1146
- Rebuilding the World Trade Center, 1507
- Super Structure, 1571

Buildings, nonresidential

Light of L.A., 1544

Buildings, office

Designer Centered Development of GA-Based DSS for Conceptual Design of Buildings, 143

- Grand Finale, 1588
- Great Hall, 1579
- Life-Cycle Environmental Effects of an Office Building, 857

Buildings, public

- Pushing the Envelope, 1556
- Rebuilding the Winter Garden, 1547
- Sustainability in Public Facilities: Analysis of Guidance Documents, 1037
- Work of Art, 1576

Buildings, residential

- Airborne Bacteria Control under Chamber and Test-Home Conditions, 466
- Analysis of Costs and Benefits of Tall Buildings, 245
- Cost-Benefit Analysis of Residential Energy-Efficiency Upgrades in Phoenix, Arizona, 58
- Feasibility of Rigiditied Inflatable Structures for Housing, 57
- Hurricane Mitigation Status and Factors Influencing Mitigation Status among Florida's Single-Family Homeowners, 1536
- Hurricane Risks and Economic Viability of Strengthened Construction, 1519
- Implications of Even Flow Production Methodology for U.S. Housing Industry, 235
- Quasi-Static Reversed Cyclic Response of Level and Stepped Cripple Walls, 1139
- Residential Floor Systems: Wood I-Joist Creep Behavior, 61
- Toxic Mold: Latest Construction Defect, 1075
- Use of Residential Construction Waste and Residues from Red Ceramic Industry in Alternative Mortars,

Build/Operate/Transfer

- Alternate Financing Strategies for Build-Operate-Transfer Projects, 221
- Optimal Capital Structure Model for BOT Power Projects in Turkey, 208

Bulgaria

Geometric Analysis of Geodetic Data for Investigation of 3D Landslide Deformations, 1527

Bulk densit

Performance Characteristics of Soil-Cement from Industry Waste Binder, 1035

Bulk modulus

Variable Bulk Modulus Constitutive Model for Sand, 593

Bulkheads

Sheet Pile Tensions in Cellular Structures, 600

Buoyant jets

- Combined Particle Image Velocimetry/Planar Laser Induced Fluorescence for Integral Modeling of Buoyant Jets. 410
- Experimental Study of a Horizontal Jet in a Wavy Environment, 406
- Impact of Vertical, Turbulent, Planar, Negatively
 Buoyant Jet with Rigid Horizontal Bottom Boundary, 607
- Vertical Penetration of Double-Diffusive Water Plumes Discharged Vertically Downward, 752

Buried pipes

Buried pipes

Centrifugal Modeling of Seismic Behavior of Large-Diameter Pipe in Liquefiable Soil, 685

Economic Model to Optimize Underground Utility Protection, 270

Liquefaction Centrifuge Modeling of Sands of Different Permeability, 684

Simulation for Ground Movements due to Pipe Bursting, 855

Buried structures

Simulation for Ground Movements due to Pipe Bursting, 855

Buses

Optimal Time Transfer in Bus Transit Route Network Design using a Genetic Algorithm, 1345

Transit Route Network Design using Frequency Coded Genetic Algorithm, 1305

Cables

Control of Wind-Induced Self-Excited Oscillations by Transfer of Internal Energy to Higher Modes of Vibration. II: Application to Taut Cables, 340

Dynamics of Cable Structures, 303

Full-Scale Test of Seismic Cable Restrainer Retrofits for Simply Supported Bridges, 92

Probabilistic Strength Estimates and Reliability of Damaged Parallel Wire Cables, 106

Wavelet-Galerkin Method for Free Vibrations of Elastic Cable, 323

Cadmium

Effect of Soil Stress on Cadmium Transport in Saturated Soils, 1480

Investigation of Cadmium Desorption from Different-Sized Sediments, 471

Caissons

Tentative New Formula for Maximum Horizontal Wave Forces Acting on Perforated Caisson, 1431

Calcareous soils

Degradation of Stiffness of Cemented Calcareous Soil in Cyclic Triaxial Tests, 637

Evaluation of Cyclic Shear Strength of Two Cemented Calcareous Soils, 636

Volume Change Behavior of Arid Calcareous Soils, 1529

Calcium

Cementing Material from Calcium Carbide Residue-Rice Husk Ash, 1017

Calcium carbonate

Biogeochemical Evaluation of Mechanisms Controlling CaCO₃₀, Precipitation in Landfill Leachate-Collection Systems, 529

Calcium sulfate

Volume Change Behavior of Arid Calcareous Soils, 1529

Calibration

Assessment of Current Load Factors for Use in Geotechnical Load and Resistance Factor Design, 606

Calibration of Submerged Radial Gates, 763

Installation Stress in Prefabricated Vertical Drains, 659
Multiobjective Sampling Design for Water Distribution
Model Calibration, 1422

Numerical Analysis of Neutron Moisture Probe Measurements, 13

2003 ASCE TRANSACTIONS

Simultaneous Zonation and Calibration of Pipe Network Parameters, 734

Validation of a Predictive Form of Horton Infiltration for Simulating Furrow Irrigation, 903

California

Building the Olivenhain, 1558

Cyclic Testing of Built-Up Steel Shear Links for the New Bay Bridge, 1163

Data Requirements for Load Estimation in Well-Mixed Tidal Channels, 534

Dynamics of Large Polymictic Lake. I: Field Observations, 701

Dynamics of Large Polymictic Lake. II: Numerical Simulations, 702

Economic-Engineering Optimization for California Water Management, 1395

Evaluation of Seismic Performance for Tunnel Retrofit Project, 633

History and Evaluation of Hargreaves Evapotranspiration Equation, 865

Improving the Effectiveness of the Engineering and Planning Functions of a Major Utility, 914

Light of L.A., 1544

Liquefaction Potential Index: Field Assessment, 609

Live-Load Distribution Factors for Concrete Box-Girder Bridges, 103

Modeling Storm Water Mass Emissions to the Southern California Bight, 479

Nonlinear Dynamic Properties of a Fibrous Organic Soil, 667

Performance Comparison of Automatic Vehicle Identification and Inductive Loop Traffic Detectors for Incident Detection, 1355

Performance, Cost, and Maintenance Requirements of Austin Sand Filters, 1402

Quasi-Static Reversed Cyclic Response of Level and Stepped Cripple Walls, 1139 Reconstructing Contaminant Deposition in a San Fran-

cisco Bay Marina, California, 522
Regression Model for Daily Maximum Stream Temperature, 523

Reservoir Simulations of Synthetic Rain Floods for the Sacramento and San Joaquin River Basins, 1420

San Diego Delivers, 1551

Site Response at Treasure and Yerba Buena Islands, California, 619

Transforming Crissy Field, 1553

Under Cover, 1592

Canada

Evolution of Personal Travel in Toronto Area and Policy Implications, 1368

Guidelines for Estimating Capacity at Freeway Reconstruction Zones, 1352

How Accurately Can We Determine Orthometric

How Accurately Can We Determine Orthometric Height Differences from GPS and Geoid Data?, 1256

Inexact Multiphase Modeling System for the Management of Subsurface Contamination under Uncertainty, 1471

Integrated Subsurface Modeling and Risk Assessment of Petroleum-Contaminated Sites in Western Canada, 544

Manual Procedures for Least-Weight Design of King-Post Truss Systems, 1513 Methodology for Assessment of Climate Change Impacts on Large-Scale Flood Protection System, 1412

Seasonal Prediction with Error Estimation of Columbia River Streamflow in British Columbia, 1394

Three-Dimensional Modeling of Tidal Circulation in Bay of Fundy, 1440

Canals

General Characteristics of Solutions to the Open-Channel Flow, Feedforward Control Problem, 873

Cantilevers

Constructability Considerations for Balanced Cantilever Construction, 1499

Carbon

Bond between Carbon Fiber Reinforced Polymer Bars and Concrete. I: Experimental Study, 174

Combined System for Biological Removal of Nitrogen and Carbon from a Fish Cannery Wastewater, 540

Repair of Damaged Steel-Concrete Composite Girders using Carbon Fiber-Reinforced Polymer Sheets, 190

Carbonation

Carbonation of Concrete Containing Mineral Admixtures, 976

Carbonation of Municipal Solid Waste Incineration Fly Ash and the Impact on Metal Mobility, 493

Influence of Recycled Aggregate on Interfacial Transition Zone, Strength, Chloride Penetration and Carbonation of Concrete, 1014

Statistical Prediction of Atmospheric Corrosion from Atmospheric-Pollution Parameters, 1483

Caribbean

Estimation of Sustainable Yield of Some Rivers in Trinidad, 803

Hurricane Vulnerability in Latin America and the Caribbean: Normalized Damage and Loss Potentials, 1531

Case reports

Case History Evaluation of Laterally Loaded Piles, 596

Case Study: Impact of Reservoir Stratification on Interflow Travel Time, 792

Case Study of the Failure of a Cross Vault: Church of Holyrood Abbey, 66

Construction of a Bridge in a Developing Country: A Bangladesh Case Study, 934

Environmental Impacts to Design/Build Projects—A Case Study of the St. George Island Bridge Replacement, Apalachicola Bay, Florida, 926

Estimating Safety Benefits of Road Improvements: Case Based Approach, 1329

Inspection of Luling Bridge Cable Stays: Case Study. 224

Lessons Learned from Rigid Conflict Resolution in an Organization: Construction Conflict Case Study, 948

Team Effectiveness Coaching: An Innovative Approach for Supporting Teams in Complex Systems, 911

Time-Dependent Back Analysis of a Multianchored Pile Retaining Wall, 586

Variance Component Estimation and Precise GPS Positioning: Case Study, 1257

Cast in place

Constructability Considerations for Balanced Cantilever Construction, 1499

Catchments

Duration of Probable Maximum Precipitation on Lake Catchments: Alternative Analysis, 819

Cavitation control

Effect of Lateral Deflector on Outlet Cavity Lengths, 751

Cavities

Effect of Lateral Deflector on Outlet Cavity Lengths, 751

Prediction of Undrained Sinkhole Collapse, 597

Cavity expansion

Simulation for Ground Movements due to Pipe Bursting, 855

Cement grouting

Prepacked Grouting Process in Concrete Construction, 1029

Cements

Alkali-Silica Reaction—Possible Cause of Map Cracking in Gunite, 1048

Behavior of Plate Load Tests on Soil Layers Improved with Cement and Fiber, 587

Cementing Material from Calcium Carbide Residue-Rice Husk Ash, 1017

Factors Influencing the Strength of Cement Fly Ash Base Courses, 1348

Micromechanical Modeling of Filament Wound Cement-Based Composites, 326

Modeling of Damage in Cement-Based Materials Subjected to External Sulfate Attack. 1: Formulation, 997

Modeling of Damage in Cement-Based Materials Subjected to External Sulfate Attack. II: Comparison with Experiments, 998

Modeling Water and Sulfuric Acid Transport through Coated Cement Concrete, 331

Municipal Solid Waste Fly Ash as a Blended Cement Material, 1023

Numerical Modeling of Coupled Hygromechanical Degradation of Cementitious Materials, 327

Permeation of High Performance Concrete, 970
Polymer Effects on the Vibration Damping Behavior of Cement, 1027

Processing Effects in Cementitious Composites: Extrusion and Casting, 983

Quantitative Description of the Pull-Out Behavior of Crimped Yarns from Cement Matrix, 1025

Resistance Changes during Compression of Carbon Flber Cement Composites, 1018

Centrifuge model

Centrifuge Modeling of Nonaqueous Phase Liquid Movement and Entrapment in Unsaturated Layered Soils, 595

Change orders

Phantom Float, 255

Channel beds

Discretization of Integral Equations Describing Flow in Nonprismatic Channels with Uneven Beds, 717 Turbulent Flow over and within a Porous Bed, 767

Channel flow

Side Outflow from Supercritical Channel Flow, 771 Three-Dimensional Numerical Simulation of Compound Channel Flows, 760

Channel improvements

Channel improvements

Aspect Ratio to Maximize Sediment Transport in Rigid Bank Channels, 788

Channelization

Impact of River Channelization on Seismic Risk: Shelby County, Tennessee, 1518

Channels, waterways

Hydraulically Efficient Power-Law Channels, 861 Three-Dimensional Modeling of Negatively Buoyant Flow in Diverging Channels, 789

Chelating agents

Chemical Control of Struvite Precipitation, 491

Chemical oxygen demand

Production of Soluble Microbial Products (SMP) in Anaerobic Chemostats under Nutrient Deficiency, 561

Removal of Oil Grease and Chemical Oxygen Demand from Oily Automotive Wastewater by Adsorption after Chemical De-emulsification, 1478

Sodium Inhibition of Thermophilic Methanogens, 502

Chemical treatment

Corrosion Condition Evaluation at Muddy Creek Bridge, 1057

Removal of Mercury from Low-Concentration Aqueous Streams using Chemical Reduction and Air Stripping, 539

Chemicals

Chemical Control of Struvite Precipitation, 491

Counterflow Method for Measurement of Henry's Law Constants, 578

Occurrence and Effects of Endocrine Disrupting Chemicals in the Environment, 1488

Chesapeake Bay

Saving the Bay, 1545

Chicago

Making the Transition, 1566

Urban Beaches: Balancing Public Rights and Private Development, 1646

Chile

Numerical Modeling of Saline Intrusion in Salar de Atacama, 802

Chimneys

Chimney and Stack Inspection Guidelines, 1610

China

Analysis of Arch Dams using Coupled Trial Load and Block Element Methods, 672

Examples of Settlement in Structures Constructed on Tidal Silt in Coastal Areas of Southeast China, 1508

Impacts of Obstacles in East Asian Cross-Border Construction, 212

Internationalization of Chinese Construction Enterprises, 264

ISO 14000 and the Construction Industry: Survey in China, 951

Nonlinear Thermal Analysis for Qing-Tibet Railway Embankments in Cold Regions, 126

Numerical Model for Wave Refraction-Diffraction near Pearl River Estuary, China, 1457

Study of Methods to Control Frost Action in Cold Regions Tunnels, 124 A Visit to the Yangtze River and the Three Gorges Dam: Reflections from a People to People Ambassador Program in China, 915

Chloridae

Chloride Penetration in Nonsaturated Concrete, 982

Corrosion of Steel Bars in Cracked Concrete under Marine Environment, 1016

Floc Characteristics and Removal of Turbidity and Humic Acid from High-Turbidity Storm Water, 511

Influence of Recycled Aggregate on Interfacial Transition Zone, Strength, Chloride Penetration and Carbonation of Concrete, 1014

Simulation of Municipal Solid Waste Incinerator Ash/ Cement Systems by Means of Factorial Experiments, 566

Statistical Prediction of Atmospheric Corrosion from Atmospheric-Pollution Parameters, 1483

Thermal Treatment for Incinerator Ash: Evaporation and Leaching Rates of Metals, 473

Chlorination

Removal of Antibiotics from Surface and Distilled Water in Conventional Water Treatment Processes, 8

Secondary Benefits of Aquifer Storage and Recovery: Disinfection By-Product Control, 490

Chlorine

Bulk Decay of Chlorine in Water Distribution Systems, 1387

Optimal Scheduling of Multiple Chlorine Sources in Water Distribution Systems, 1424

Simulation and Control of Chlorine Levels in Water Distribution Networks, 1393

Water Quality Parameter Estimation in Steady-State Distribution System, 1392

Chromiun

Bacterial Leaching of Metals from Tannery Sludge by Indigenous Sulphur-Oxidizing Bacteria—Effect of Sludge Solids Concentration, 503

Laboratory Pilot Test of Chromium (III) Isolation from Acid Extract of Tannery Sludge, 1468

Leaching Behavior of Lead, Chromium (III), and Zinc in Cement/Metal Oxides Systems, 505

Cisterns

Atmospheric Oxygen Transfer during In Situ Oxygen Uptake Rate Measurements, 464

Biodegradation of Mixtures of Phenolic Compounds in an Upward-Flow Anaerobic Sludge Blanket Reactor, 560

Dynamic Mathematical Modeling of an Isothermal Three-Phase Reactor: Model Development and Validation, 513

Electrochemical Reduction of 2,4-Dinitrotoluene in a Continuous Flow Laboratory Scale Reactor, 465

Excess Sludge Production in Membrane Bioreactors: A Theoretical Investigation, 477

Granular Bed Baffled Reactor (Grabbr): Solution to a Two-Phase Anaerobic Digestion System, 562

Integrated Modeling of Anaerobic Fluidized Bed Bioreactor for Deicing Waste Treatment. I: Model Derivation, 454

Integrated Modeling of Anaerobic Fluidized Bed Bioreactor for Deicing Waste Treatment. II: Simulation and Experimental Studies, 455

Modeling Tetrachloroethylene Decomposition in Photosonolysis Reactor, 458

Civil engineering

ASCE History and Heritage Programs, 1058

Claims

Baseline Determination in Construction Labor Productivity-Loss Claims, 957

Multiagent System for Construction Claims Negotiation, 145

Unabsorbed Overhead and the Eichleay Formula, 1081

Classification

Analysis of Fiber Optic Traffic Sensors in Flexible Pavements, 1349

Classification Approach for Reliability Analysis with Stochastic Finite-Element Modeling, 1195

Engineering Information Classification System, 249

Measured and Estimated Suction Indices for Swelling Potential Classification, 642

Particle Size Distribution of Lunar Soil, 670

Clay soils

Rate-Dependent Hyperplasticity with Internal Functions, 312

Removal of Trichloroethylene from Clay Soil by Series-Electrokinetic Process, 1464

Clavs

Consolidation of Clay with a System of Vertical and Horizontal Drains, 657

Consolidation of Clays for Variable Permeability and Compressibility, 675

Drilled Shaft Defects: Detection, and Effects on Capacity in Varved Clay, 689

Durability of Boston Blue Clay in Waste Containment Applications, 977 Effect of Soil Type on Electrokinetic Removal of Phe-

Effect of Soil Type on Electrokinetic Removal of Phe nanthrene using Surfactants and Cosolvents, 482

Evaporation Theory for Deformable Soils, 677

Factors Affecting Long-Term Efficiency of Compensation Grouting in Clays, 603

Innovative Waste Containment Barriers for Subsurface Pollution Control, 1466

Mechanism Controlling Permeability Change in Clays due to Changes in Pore Fluid, 594

Multiple-Porosity Model for the Transport of Reactive Contaminants in Fissured Soils with Nonequilibrium Partitioning, 30

Numerical Parametric Study of Piezocone Penetration Test in Clays, 29

Piecewise-Linear Model for Large Strain Radial Consolidation, 668

Residual Shear Strength Mobilized in First-Time Slope Failures, 580

Sequentially Enhanced Electrokinetic Remediation of Heavy Metals in Low Buffering Clayey Soils, 604

Strain-Rate Effect on Soil Secant Shear Modulus at Small Cyclic Strains, 630

Three-Dimensional Discrete Element Method of Analysis of Clays, 347

Three-Dimensional Lower Bound Solutions for Stability of Plate Anchors in Clay, 602

Undrained Response of Clays to Varying Strain Rate, 605

Undrained Stability of Braced Excavations in Clay, 648
Use of an Instrumented Flat Dilatometer in Soft Varved
Clay, 692

Viscosity Effects on One-Dimensional Consolidation of Clay, 21

Volumetric Deformation of Natural Clays, 35

Cliffe

Keyblock Stability in Seismically Active Rock Slopes—Snake Path Cliff, Masada, 645

Climatic changes

Methodology for Assessment of Climate Change Impacts on Large-Scale Flood Protection System, 1412

Weighted-Climate Parametric Hydrologist Forecasting, 817

Climatic data

Estimating Actual Evapotranspiration from Limited Climatic Data using Neural Computing Technique, 883

Climatology

Predicting Daily Net Radiation using Minimum Climatological Data, 887

Clogging

Biogeochemical Evaluation of Mechanisms Controlling CaCO_{to}, Precipitation in Landfill Leachate-Collection Systems, 529

Clogging Evaluation of Permeable Bases, 1320

Clouds

Characterizing Debris Clouds Created in Oblique Orbital Debris Particle Impact, 56

Coagulation

Degradation of Drinking Water Treatment Plant Infrastructure from Enhanced Coagulation, 856

Development of Optimal Poly-Alumino-Iron Sulphate Coagulant, 526

Reduction of Fulvic Acid in Drinking Water by Ferrate, 445

Coal

Evaluation of Illinois Pulverized Coal Combustion Dry Bottom Ash for Use in Geotechnical Engineering Applications, 279

Coal fired powerplants

Kinetic Study on Absorption of SO₂ and NO with Acidic NaClO₂ Solutions using the Spraying Column, 557

Coal mines

Correlation Survey for Shaft Deepening in Digwadih Underground Coal Mine, 1260

Coastal engineering

Advances in Coastal Structure Design, 1604

Coastal environment

Corrosion of Steel Bars in Cracked Concrete under Marine Environment, 1016

Development and Application of Oil Spill Model for Singapore Coastal Waters, 746

Examples of Settlement in Structures Constructed on Tidal Silt in Coastal Areas of Southeast China, 1508

Incipient Motion of Bivalve Shells on Sand Beds under Flowing Water, 309

Parameters Affecting the Performance of Wetting and Drying in a Two-Dimensional Finite Element Long Wave Hydrodynamic Model, 758

Sensitivity Analysis and Comparative Performance of Outfalls with Single Buoyant Plumes, 462

Coastal environment

Submerged Ordnance and Unrestrained Cylinder Movement in Coastal Zone, 1442

Water Level Measurement Locations for Coastal Aquifer Management, 1384

Coastal morphology

Beach-Profile Evolution under Spilling and Plunging Breakers, 1432

Coastal structures

Advances in Coastal Structure Design, 1604

Performance of Coastal Structures against Sequences of Hurricanes, 1452

Tentative New Formula for Maximum Horizontal Wave Forces Acting on Perforated Caisson, 1431

Coating

Analysis and Design of Evapotranspirative Cover for Hazardous Waste Landfill, 620

Modeling Water and Sulfuric Acid Transport through Coated Cement Concrete, 331

Thermal Performance Analysis of Highly Reflective Coating on Residences in Hot and Arid Climates,

Codes

Regulated Riparian Model Water Code, 1635

Coefficients

Dispersion Coefficient of Streams from Tracer Experiment Data, 506

Nondestructive Testing of Mortar Specimens using the Microwave Free-Space Method, 984

Cofferdams

Sheet Pile Tensions in Cellular Structures, 600

Cohesionless sand

Effects of Silt on Three-Dimensional Stress-Strain Behavior of Loose Sand, 579

Cohesionless sediment

Influence of Cohesion on Scour under Sumerged Circular Vertical Jets, 798

Cohesionless soils

Calculations of Bearing Capacity Factor d, using Numerical Limit Analyses, 623

Erosion of Sand by Circular Impinging Water Jets with Small Tailwater, 715

Evaluation of Cone Penetration Test-Based Settlement Prediction Methods for Shallow Foundations on Cohesionless Soils at Highway Bridge Construction Sites. 664

Liquefaction Resistance of Clean and Nonplastic Silty Sands Based on Cone Penetration Resistance, 671

Cohesive sediment

Deposition Properties of Fine Sediment, 716

Hydraulics of Submerged Jet Subject to Change in Cohesive Bed Geometry, 696

Influence of Cohesion on Scour under Sumerged Circular Vertical Jets, 798

Movement of Total Suspended Solids in Combined Sewers, 724

Straight Benthic Flow-Through Flume for In Situ Measurement of Cohesive Sediment Dynamics, 698

Cohesive soils

Suction Caisson Capacity in Anisotropic, Purely Cohesive Soil, 34

2003 ASCE TRANSACTIONS

Three-Dimensional Discrete Element Method of Analysis of Clays, 347

Undrained Response of Clays to Varying Strain Rate,

Cold regions

Frozen Ground Engineering, 1616

Nonlinear Thermal Analysis for Qing-Tibet Railway Embankments in Cold Regions, 126

Study of Methods to Control Frost Action in Cold Regions Tunnels, 124

Cold weather construction

Some Uncertainties in Embankment Dam Engineering,

Cold weather operations

Cold Weather Placement of RCC, 974

Cold-formed steel

Cold-Formed Steel Channels Subjected to Concentrated Bearing Load, 1181

Compression Tests of Channels with Inclined Simple Edge Stiffeners, 1222

Experimental Investigation of Cold-Formed Stainless Steel Columns, 1102

Local Buckling Tests on Cold-Formed Steel Beams, 1242

Local, Distortional, and Euler Buckling of Thin-Walled Columns, 2 Tests of Cold-Formed Circular Tubular Braces under

Collapse

Analysis of Recent Bridge Failures in the United States, 1051

Cyclic Axial Loading, 1133

Dynamic Instability of Simple Structural Systems,

Experimental and Numerical Prediction of Collapse of Flatbar Stiffeners in Aluminum Panels, 1101

The Pentagon Building Performance Report, 1629 The Pentagon Report, 1549

Scale Transition in Steel-Concrete Interaction. II: Applications, 329

Study of Recent Building Failures in the United States, 1052

Tests to Structural Collapse of Single Degree of Freedom Frames Subjected to Earthquake Excitations, 1250

Collapse load

Stability of Stiffened Plates with Initial Imperfections, 365

Color

Activated Carbon Addition to an Activated Sludge Model Reactor for Color Removal from a Cotton Textile Processing Watewater, 568

Electrochemical Pretreatment of Wastewater from Color Photograph Processing Unit, 567

Evaluation of Color Changes in Sewage Sludge Ash Brick by using Image Analysis Method, 1485

Colorado

Case History of Damage to a School Building Caused by Differentially Heaving Bedrock, 1046

Joining Forces, 1585

Updating Bridge Reliability Based on Bridge Management Systems Visual Inspection Results, 113

Columns

- Buckling of Columns with Intermediate Elastic Restraint, 310
- Comparative Study of Models on Continement of Concrete Cylinders with Fiber-Reinforced Polymer Composites, 181
- Compression Tests of Channels with Inclined Simple Edge Stiffeners, 1222
- Effect of Base Fixity on Buckling of Heavy Column with End Load, 296
- Elastic Stability and Second-Order Analysis of Three-Dimensional Frames: Effects of Column Orientation, 417
- Evaporation Theory for Deformable Soils, 677
- Fire Resistance of Four-Face Heated Reinforced Concrete Columns, 1203
- Influence of Long-Term Loads on Concrete Column Strength, 1500
- Local Buckling of Fiber-Reinforced Plastic Composite Structural Members with Open and Closed Cross Sections, 1233
- Local, Distortional, and Euler Buckling of Thin-Walled Columns, 2
- Nonlinear Analysis of Axially Loaded Concrete-Filled Tube Columns with Confinement Effect, 1213
- Performance Evaluation of Reinforced Concrete Bridge Columns Wrapped with Fiber Reinforced Polymers, 166
- Performance of Axially Loaded Short Rectangular Columns Strengthened with Carbon Fiber-Reinforced Polymer Wrapping, 179
- Plastic Torsional Buckling of Cruciform Compression Members, 359
- Seismic Design of Structures by Bundled Columns,
- Shear Strengthening of Interior Slab—Column Connections using Carbon Fiber-Reinforced Polymer Sheets, 173
- Stability Criteria for Euler Columns with Intermediate and End Axial Loads, 335
- Thermal Postbuckling of Uniform Columns on Elastic Foundation—Intuitive Solution, 426

Columns, supports

An Alternative Approach, 1573

Combined sewers

- Bed Shear Stress Boundary Condition for Storage Tank Sedimentation, 521
- Movement of Total Suspended Solids in Combined Sewers, 724

Combustion

Kinetic Study on Absorption of SO₂ and NO with Acidic NaClO₂ Solutions using the Spraying Column,

Communication

Communication Patterns in Construction at Construction Manager Level, 262

Communication skills

Leadership and Communications in Civil Engineering: Past, Present, and Future, 930

Communication systems

Towards a Vision for Information Technology in Civil Engineering, 1644

Community development

Beyond Semantics and the Immediate Postdisaster Period: Community Quality of Life as an Overarching Theme for Sustaining Collective Action, 1537

Community relations

Project Management Training and Community Service, 935

Commute

Travel Characteristics of Commuters Accessing Transit: Case Study, 1365

Compaction

- 100-mm-Diameter Mold Used with Superpave Gyratory Compactor, 967
- Cross-Sectional Compactness and Bracing Requirements for HPS483W Girders, 1240
- Optimum Compaction Temperature for Modified Binders, 1347
- Structural Ductility in Hybrid High Performance Steel Beams, 1241
- Validation of Vibration-Based Onboard Asphalt Density Measuring System, 197

Comparative studies

- Comparative Study of Models on Confinement of Concrete Cylinders with Fiber-Reinforced Polymer Composites, 181
- Comparison of Estuarine Water Quality Models for Total Maximum Daily Load Development in Neuse River Estuary, 1407
- Site Response at Treasure and Yerba Buena Islands, California, 619

Compatibility

Shear Analysis of Concrete with Brittle Reinforcement,

Competition

Competitiveness of Inexperienced and Experienced Contractors in Bidding, 241

Composite beams

- Behavior of Shear Studs Subjected to Fully Reversed Cyclic Loading, 1229
- Practical Tool to Accurately Estimate Tensile Stresses in Concrete Bridge Decks to Control Transverse Cracking, 1501
- Shear Connection Nonlinearity and Deflections of Steel-Concrete Composite Beams: A Simplified Method, 1085
- Steel-Concrete Composite Beams Considering Shear Slip Effects, 1132
- Ultimate Strength of Ribbed Slab Composite Beams with Web Openings, 1164

Composite columns

- Long-Term Behavior and Strength of Partially Encased Composite Columns Made with Built-Up Steel Shapes, 1099
- Strength of Concrete Filled Steel Box Columns Incorporating Interaction Buckling, 1145
- Time-Dependent Deformation of Pultruded Fiber-Reinforced Polymer Composite Columns, 195

Composite materials

- Adaptive Wood Composite: Experiment, 1152
- Bond between Carbon Fiber Reinforced Polymer Bars and Concrete. 1: Experimental Study, 174
- Composite Reinforcement to Strengthen Existing Concrete Structures against Air Blast, 167

- Creep of Polymer Matrix Composites. I: Norton/ Bailey Creep Law for Transverse Isotropy, 318
- Creep of Polymer Matrix Composites. II: Monkman-Grant Failure Relationship for Transverse Isotropy, 319
- Cyclic Flexure Tests of Masonry Walls Reinforced with Glass Fiber Reinforced Polymer Sheets, 159
- Deflection Requirements for Bridges Constructed with Advanced Composite Materials, 79
- Development of Boundary Structures for Complex-Shaped Buildings, 59
- Development of Design Values for Wood-Plastic Composite Materials, 1010
- Durability Gap Analysis for Fiber-Reinforced Polymer Composites in Civil Infrastructure, 182
- Dynamic Stability of Laminated Composite Curved Panels with Cutouts, 416
- Energy-Dissipating Polymer Matrix Composite-Infill Wall System for Seismic Retrofitting, 1126
- Environmental Effects on the Short-Term Bond of Carbon Fiber-Reinforced Polymer (CFRP) Composites, 163
- Feasibility and Optimization of Rigidified Inflatable Structures for Housing, 1232
- Flexural and Shear Rigidity of Composite Sheet Piles,
- Improving the Strength and Ductility of Rectangular Reinforced Concrete Columns through Composite Partial Interaction: Tests, 1199
- Interaction between Static Fatigue and Zero-Stress Aging in E-glass Fiber Composites, 157
- Load-Duration Behavior of Wood-Plastic Composites, 1024
- Local Buckling of Composite Fiber-Reinforced Plastic Wide-Flange Sections, 1097
- Local Effects Induced by Longitudinal Forces in Composite Girders, 100
- Micromechanical Modeling of Filament Wound Cement-Based Composites, 326
- Processing Effects in Cementitious Composites: Extrusion and Casting, 983
- Reinforced Concrete T-Beams Strengthened in Shear with Fiber-Reinforced Polymer Sheets, 189
- Resistance Changes during Compression of Carbon Fiber Cement Composites, 1018
- Retrofitting of Reinforced Concrete Beams with CAR-DIFRC, 176
- Rotational Stiffness of Rectangular Hollow Sections Composite Joints, 1131
- Steel-Concrete Composite Plate Girders Subject to Shear Loading, 1204
- Use of Composite Reinforcement to Strengthen Concrete and Air-Entrained Concrete Masonry Walls against Air Blast, 168

Composite structures

- Behavior of Shear Studs Subjected to Fully Reversed Cyclic Loading, 1229
- Connectors for Timber-Lightweight Concrete Composite Structures, 1237
- Design of Flutter Characteristics of Composite Wings Using Frequency Constraint Optimization, 40
- Local Buckling of Fiber-Reinforced Plastic Composite Structural Members with Open and Closed Cross Sections, 1233

- Modeling Membrane Action of Concrete Slabs in Composite Buildings in Fire. I: Theoretical Development, 1190
- Modeling Membrane Action of Concrete Slabs in Composite Buildings in Fire. II: Validations, 1191
- Recommended Practice for Fiber-Reinforced Polymer Products for Overhead Utility Line Structures, 1634 Seismic Damage and Collapse Assessment of Compos-
- ite Moment Frames, 7 Toward Load and Resistance Factor Design for Fiber-
- Reinforced Polymer Composite Structures, 1127

Composts

Modeling Temperature Effects on Decomposition, 576

Compressibility

- Behavior of Hydrocarbon Reservoir Sands and Sandstones, 676
- Cartesian Cut Cell Two-Fluid Solver for Hydraulic Flow Problems, 764
- Composite Compressibility Model for Municipal Solid Waste, 614
- Compressibility and Permeability Correlations for Fine-Grained Dredged Materials, 1448
- Consolidation of Clays for Variable Permeability and Compressibility, 675
- Modeling Compression Behavior of Structured Geomaterials, 31
- Relationship of Compressibility Parameters to Municipal Solid Waste Decomposition, 691

Compression

- Beam Web Strength under Pairs of Concentrated Compression Loads, 1495
- Behavior of Concrete Driven by Uniaxially Embedded Shape Memory Alloy Actuators, 360
- Cracked Membrane Model: Finite Element Implementation, 1196
- Effect of Waveform and Loading Sequence on Low-Cycle Compressive Fatigue Life of Spruce, 971
- FPGA Based Satellite Adaptive Image Compression
- Mechanical Properties of Lead Alloys in Compression,
- Microplane Model for Reinforced-Concrete Planar Members in Tension-Compression, 1118
- Moment Magnifier Method for Long-Term Behavior of Flat Plates Subjected to In-Plane Compression, 1093
- Nonlinear Creep Damage Model for Concrete under Uniaxial Compression, 398
- Physical Properties of Plywood and Waferboard as Pile Cushion Materials, 615
- Shear Compression Failure in Reinforced Concreted Deep Beams, 1137
- Variable Bulk Modulus Constitutive Model for Sand,

Compression tests

- Compression Tests of Channels with Inclined Simple Edge Stiffeners, 1222
- Effects of Consolidation History on Critical State of Sand, 612
- Modeling the Stress-Strain Relations of Sand in Cyclic Plane Strain Loading, 622

Compressive strength

Alternative Cap Materials for Evaluating the Compressive Strength of Controlled Low-Strength Materials,

- Cementing Material from Calcium Carbide Residue-Rice Husk Ash, 1017
- Design of Retrofitting for Damaged Rectangular Hollow Sectioned Struts, 1182
- Determination of Early Age Mortar and Concrete Strength by Ultrasonic Wave Reflections, 990
- Development of Bottom Ash as Pozzolanic Material, 965
- Influence of Portland Cement Type on Unconfined Compressive Strength and Linear Expansion of Cement-Stabilized Phosphogypsum, 556
- Municipal Solid Waste Fly Ash as a Blended Cement Material, 1023
- Neural Network Modeling of Confined Compressive Strength and Strain of Circular Concrete Columns, 1138
- Nondestructive Assessment of the Actual Compressive Strength of High-Strength Concrete, 1015
- Performance Characteristics of Soil-Cement from Industry Waste Binder, 1035
- Strength Curves for Metal Plates in Compression, 1225
- Study of Applying Macroevolutionary Genetic Programming to Concrete Strength Estimation, 156
- Ultimate Compressive Strength of Aluminum Plate Elements. 1226

Computation

- Advection Tests of Optimal Compact Implicit Scheme, 736
- Application of Ergun Equation to Computation of Critical Shear Velocity Subject to Seepage, 889
- Automated Design of Steel Frames using Advanced Analysis and Object-Oriented Evolutionary Computation, 1147
- Bond between Carbon Fiber Reinforced Polymer Bars and Concrete. II: Computational Modeling, 175
- Calculations of Bearing Capacity Factor d_r using Numerical Limit Analyses, 623
- Comparison of Risk Calculation Methods for a Culvert,
- Computation of Bearing Capacity Factor N_v— Terzaghi's Mechanism, 23
- Computation of Three-Dimensional Nonlinear Panel Flutter, 54
- Computational Analysis of Quality Reduction during Drying of Lumber due to Irrecoverable Deformation. 1: Orthotropic Viscoelastic-Mechanosorptive-Plastic Material Model for the Transverse Plane of Wood, 391
- Computational Analysis of Quality Reduction during Drying of Lumber due to Irrecoverable Deformation. II: Algorithmic Aspects and Practical Application,
- Computing Inlet Pressure Head of Multioutlet Pipeline 910
- Decontamination of Radionuclides from Concrete by Microwave Heating. II: Computations, 369
- Designer Centered Development of GA-Based DSS for Conceptual Design of Buildings, 143
- Detention Pond Design and Land Use Planning for Watershed Management, 1389
- Digital Elevation Model Based Volume Calculations using Topographical Data, 1264
- Engineering Information Service Infrastructure for Ubiquitous Computing, 148

- Estimating Actual Evapotranspiration from Limited Climatic Data using Neural Computing Technique, 883
- Graphical Solution for Vertical Curve Computation, 1275
- Groundwater Quality Modeling an Management Under Uncertainty, 1617
- Integration within Polygonal Finite Elements, 39
- Interpolants within Convex Polygons: Wachspress' Shape Functions, 38
- New Method for Calculating Path Float in Program Evaluation and Review Technique (PERT), 254
- Risk-Based Expenditure Allocation for Infrastructure Improvement, 115
- Standard Calculation Methods for Structural Fire Protection, 1641
- Steepest Descent Method for Representing Spatially Correlated Uncertainty in GIS, 1280
- Stress Solution of Multiple Elliptic Hole Problem in Plane Elasticity, 431

Computational fluid dynamics technique

- Laminar Pipeline Flow of Wastewater Sludge: Computational Fluid Dynamics Approach, 708
- Three-Dimensional CFD Modeling of Self-Forming Meandering Channel, 731

Computer aided design

Design of Highway Bridges: Natural Place for CBR, 144

Computer aided drafting (CAD)

Graphical Solution for Vertical Curve Computation, 1275

Computer aided simulation

- Discharge Formulas of Crump-De Gruyter Gate-Weir for Computer Simulation, 888
- Unified Modeling Methodology for Construction Simulation, 11

Computer analysis

- Confinement-Shear Lattice Model for Concrete Damage in Tension and Compression: I. Theory, 435
- Confinement-Shear Lattice Model for Concrete Damage in Tension and Compression: II: Computation and Validation, 436

Computer applications

- Applying Handheld Computers in the Construction Industry, 1517
- Architectural Engineering 2003 Building Integration Solutions, 1607
- Elastic Stability and Second-Order Analysis of Three-Dimensional Frames: Effects of Column Orientation, 417
- Genetic Optimization for Dynamic Project Control, 242
- Java Inspection Framework: Developing Field Inspection Support Systems for Civil Systems Inspection, 149
- Management Online: Mining the Full Potential of the Intranet, 931
- Reconstruction of the Building Infrastructure: Two Performance Prediction Models, 843
- Resource Optimization using Combined Simulation and Genetic Algorithms, 276

Computer hardware

Applying Handheld Computers in the Construction

Computer languages

XML for Capital Facilities, 920

Computer models

An Ontology for Relating Features with Activities to Calculate Costs, 151

Optimization of Water Distribution Network Design using the Shuffled Frog Leaping Algorithm, 1400

Risk Assessment in Construction, 253

Simplified Discrete-Event Simulation Approach for Construction Simulation, 258

Computer software

The Benefits of Virtual Building Tools, 1582

Engineering Information Service Infrastructure for Ubiquitous Computing, 148

Java Inspection Framework: Developing Field Inspection Support Systems for Civil Systems Inspection, 149

Object-Oriented Modeling of Structural Analysis and Design with Application to Damping Device Configuration, 138

Physical Properties of Plywood and Waferboard as Pile Cushion Materials, 615

Software for Planning and Cost Control in Directional Drilling Projects, 248

Validation of Existing Bed Load Transport Formulas using In-Sewer Sediment, 727

Concentrated loads

Models for Concentrated Load Performance Assessment of Isotropic Wood Floor Sheathing, 1188

Conceptual design

Conceptual Building Design—Evolutionary Approach, 142

Conceptual Design for the Sunniberg Bridge, 84

Designer Centered Development of GA-Based DSS for Conceptual Design of Buildings, 143

Hershey Arena: Anton Tedesko's Pioneering Form, 1113

Pilot Study of Quality Function Deployment in Construction Projects, 234

Concrete

Abrasion-Porosity-Strength Model for Fly Ash Concrete, 1009

Assessment of Self-Compacting Concrete Immersed in Acidic Solutions, 1003

Behavior of Concrete Beams Strengthened with Fiber-Reinforced Polymer Laminates under Impact Loading, 180

Behavior of Concrete Driven by Uniaxially Embedded Shape Memory Alloy Actuators, 360

Biaxial Failure Model for Fiber Reinforced Concrete,

Bond between Carbon Fiber Reinforced Polymer Bars and Concrete. 1: Experimental Study, 174

Bond between Carbon Fiber Reinforced Polymer Bars and Concrete. II: Computational Modeling, 175

Carbonation of Concrete Containing Mineral Admixtures, 976

Cementing Material from Calcium Carbide Residue-Rice Husk Ash, 1017

Chloride Penetration in Nonsaturated Concrete, 982

Cohesive Fracturing and Stresses Caused by Hydration Heat in Massive Concrete Wall, 286 Concrete Uniaxial Tensile Strength and Cylinder Splitting Test, 1151

Concrete-Filled Hollow Structural Steel Columns after Exposure to ISO-834 Fire Standard, 1091

Confinement-Shear Lattice Model for Concrete Damage in Tension and Compression: I. Theory, 435

Confinement-Shear Lattice Model for Concrete Damage in Tension and Compression: II: Computation and Validation, 436

Connectors for Timber-Lightweight Concrete Composite Structures, 1237

Constructability Considerations for Balanced Cantilever Construction, 1499

Controlled Concrete Demolition using Expansive Cracking Agents, 209

Corrosion of Steel Bars in Cracked Concrete under Marine Environment, 1016

Decontamination of Radionuclides from Concrete by Microwave Heating. I: Theory, 368

Decontamination of Radionuclides from Concrete by Microwave Heating. II: Computations, 369

Determination of Early Age Mortar and Concrete Strength by Ultrasonic Wave Reflections, 990

Direct Shear Test of Sandstone-Concrete Joints, 14

Effects of False Floors on Vibration Serviceability of Building Floors. I: Modal Properties, 1044

Effects of False Floors on Vibration Serviceability of Building Floors. II: Response to Pedestrian Excitation, 1045

Effects of Mineral Admixture on Properties of Young Concrete, 1013

Experimental Investigation of Bonded Fiber Reinforced Polymer-Concrete Joints under Cyclic Loading, 171

Experimental Study and Calculation of Fire Resistance of Concrete-Filled Hollow Steel Columns, 1119

Extended Hyperbolic Model for Sand-to-Concrete Interfaces, 674

Fatigue Response of New Graphite/Epoxy-Concrete Girder, 162

High-Volume Fly Ash Concrete with High Strength and Low Drying Shrinkage, 978

HKCONSIM: A Practical Simulation Solution to Planning Concrete Plant Operations in Hong Kong, 259 Internal Strain Measurements in Concrete Elements by

Fiber Optic Sensors, 975 Maize-cob Ash as Filler in Concrete, 985

Modeling of Damage in Cement-Based Materials Subjected to External Sulfate Attack. II: Comparison with Experiments, 998

Modeling Water and Sulfuric Acid Transport through Coated Cement Concrete, 331

Nonlinear Creep Damage Model for Concrete under Uniaxial Compression, 398

Perforation Thickness and Ballistic Limit of Concrete Target Subjected to Rigid Projectile Impact, 400

Permeation of High Performance Concrete, 970 Repair of Damaged Steel-Concrete Composite Girders

using Carbon Fiber-Reinforced Polymer Sheets, 190 Rheological Characterization of Heterogeneous Materials with Evolving Properties, 991

Scale Transition in Steel-Concrete Interaction. 1: Model, 328

Shear Connection Nonlinearity and Deflections of Steel-Concrete Composite Beams: A Simplified Method, 1085

- Short Term Testing of Hybrid T Beam Made of New Prepreg Material, 172
- Strengthening of Steel-Concrete Composite Girders using Carbon Fiber Reinforced Polymers Sheets, 1087
- Stress-Strain Relations and Modulus of Elasticity of Two-Stage Concrete, 1000
- Study of Applying Macroevolutionary Genetic Programming to Concrete Strength Estimation, 156
 Substitution of Ely Ash, Slag and Chemical Admix
- Substitution of Fly Ash, Slag, and Chemical Admixtures in Concrete Mix Designs, 1033
- Ultrasonic Imaging of Concrete Elements using Reconstruction by Synthetic Aperture Focusing Technique, 989

Concrete aggregates

- Application of Construction and Building Debris as Base and Subbase Materials in Rigid Pavement, 1350
- Influence of Recycled Aggregate on Interfacial Transition Zone, Strength, Chloride Penetration and Carbonation of Concrete, 1014
- Simulation of Two-Dimensional Aggregate Distribution with Wall Effect, 1022

Concrete blocks

Cyclic Flexure Tests of Masonry Walls Reinforced with Glass Fiber Reinforced Polymer Sheets, 159

Concrete columns

- Analytical Models for Concrete Confined with FRP Tubes, 160
- Creep Analysis of Axially Loaded Fiber Reinforced Polymer-Confined Concrete Columns, 422
- Drift Limits of High-Strength Concrete Columns Subjected to Load Reversals, 1115
- Early Cover Spalling in High-Strength Concrete Columns, 1116
- Effect of Strength and Fiber Reinforcement on Fire Resistance of High-Strength Concrete Columns, 1111
- Effect of Temperature on Thermal Properties of High-Strength Concrete, 972
- External Prestressing Concrete Columns for Improved Seismic Shear Resistance, 1186
- Improving the Strength and Ductility of Rectangular Reinforced Concrete Columns through Composite Partial Interaction: Tests, 1199
- Modeling Confinement Efficiency of Reinforced Concrete Columns with Rectilinear Transverse Steel using Artificial Neural Networks, 1160
- Modeling Reinforced-Concrete Beam-Column Joints Subjected to Cyclic Loading, 1251
- Neural Network Modeling of Confined Compressive Strength and Strain of Circular Concrete Columns, 1138
- Reliability of Fiber-Reinforced Polymer-Confined Reinforced Concrete Columns, 1193
- Retrofit of Reinforced Concrete Columns using Partially Stiffened Steel Jackets, 1155
- Uniaxial Confinement Model for Normal- and High-Strength Concrete Columns, 1110

Concrete construction

Engineering Considerations for Life-Slab Construction,

Concrete deterioration

Bond Geometry and Shear Strength of Steel Plates Bonded to Concrete on Heating, 1031

Concrete durability

- Correlation of Rheological Properties to Durability and Strength of Hardened Concrete, 1007
- Residual Life of Corroding Reinforced Concrete Structures in Marine Environment, 1002

Concrete masonry

- Cyclic Performance of Concrete-Backed Stone Masonry Walls, 1142
- Three-Strut Model for Concrete Masonry-Infilled Steel Frames, 1103

Concrete pavements

- Application of Construction and Building Debris as Base and Subbase Materials in Rigid Pavement, 1350
- Cross Tensioned Concrete Pavement, 1334
- Model for Nonlinear Thermal Effect on Pavement Warping Stresses, 1366

Concrete, post-tensioned

Tendon Model for Nonlinear Analysis of Externally Prestressed Concrete Structures, 1094

Concrete, precast

- Properties of Field Manufactured Cast-Concrete Products Utilizing Recycled Materials, 1008
- Seismic Performance of Precast Reinforced and Prestressed Concrete Walls, 1114
- State of Practice for Positive Moment Connections in Prestressed Concrete Girders Made Continuous, 102

Concrete prestressed

- External Prestressing Concrete Columns for Improved Seismic Shear Resistance, 1186
- Flexural Behavior and Deformability of Fiber Reinforced Polymer Prestressed Concrete Beams, 186
- Location of Prestressing Steel Fractures in Concrete,
- Stability of Slender Webs of Prestressed Concrete Box-Girder Bridges, 86
- State of Practice for Positive Moment Connections in Prestressed Concrete Girders Made Continuous, 102
- Tendon Model for Nonlinear Analysis of Externally Prestressed Concrete Structures, 1094
- Theoretical Study on Short-Term and Long-Term Deflections of Fiber Reinforced Polymer Prestressed Concrete Beams, 187

Concrete properties

Simulation of Two-Dimensional Aggregate Distribution with Wall Effect, 1022

Concrete, reinforced

- 100-Ton (890 kN) Rock Anchor Pullout Test, 1496
- Alternative Shear Reinforcement for Reinforced Concrete Flat Slabs, 1197
- Assessing Damage of Reinforced Concrete Beam using "b-value" Analysis of Acoustic Emission Signals, 994
- Behavior of Reinforced Concrete Beams with Loss of Bond at Longitudinal Reinforcement, 1219
- Bond Behavior of Corroded Steel Reinforcement in Concrete Wrapped with Carbon Fiber Reinforced Polymer Sheets, 1004
- Constitutive Model for Concrete with Embedded Sets of Reinforcement, 363
- Construction Control of Reinforced Concrete Arch Bridges, 75

- Cracked Membrane Model: Finite Element Implementation, 1196
- Damage Model Based Reinforced-Concrete Element.
- Design and Construction of a Bridge in Very High Performance Fiber-Reinforced Concrete, 104
- Dimensional Analysis of Reinforced Concrete Beams Subjected to Pure Torsion, 1239
- Drift Capacity of Rectangular Reinforced Concrete Columns with Low Lateral Confinement and High-Axial Load, 1156
- Drift Limits of High-Strength Concrete Columns Subjected to Load Reversals, 1115
- Effect of Temperature on Thermal Properties of High-Strength Concrete, 972
- Effectiveness of Impressed Current Technique to Simulate Corrosion of Steel Reinforcement in Concrete.
- Experimental and Analytical Behavior of Carbon Fiber-Based Rods as Flexural Reinforcement, 164
- Experimental Investigation of FRP-Strengthened RC Beam-Column Joints, 161
- Fire Resistance of Four-Face Heated Reinforced Concrete Columns, 1203
- Flexural Behavior of R/C Beams Strengthened with Carbon Fiber Reinforced Polymer Sheets or Fabric,
- Flexural Design of Reinforced Concrete Frames by Genetic Algorithm, 1159
- Flexural Design of Reinforced Concrete Frames using
- Improving the Strength and Ductility of Rectangular Reinforced Concrete Columns through Composite Partial Interaction: Tests, 1199
- Inelastic Behavior and Ductility Capacity of Reinforced Concrete Bridge Piers under Earthquake. I: Theory and Formulation, 1201
- Inelastic Behavior and Ductility Capacity of Reinforced Concrete Bridge Piers under Earthquake. II: Numerical Validation, 1202
- Influence of Long-Term Loads on Concrete Column
- Issues in Construction of a Unique Heavily Reinforced Concrete Structure, 1503
- Microplane Model for Reinforced-Concrete Planar Members in Tension-Compression, 1118
- Performance of Axially Loaded Short Rectangular Columns Strengthened with Carbon Fiber-Reinforced Polymer Wrapping, 179
- Physical Properties of Glass Fiber-Reinforced Polymer Rebars in Compression, 196
- Practical Tool to Accurately Estimate Tensile Stresses in Concrete Bridge Decks to Control Transverse Cracking, 1501
- Punching Shear Strengthening of Reinforced Concrete Flat Plates using Carbon Fiber Reinforced Polymers.
- Reinforced Concrete T-Beams Strengthened in Shear with Fiber-Reinforced Polymer Sheets, 189
- Reliability of Fiber-Reinforced Polymer-Contined Reinforced Concrete Columns, 1193
- Scale Transition in Steel-Concrete Interaction. 11: Applications, 329
- Seismic Performance of Precast Reinforced and Prestressed Concrete Walls, 1114
- Seismic Retrofit of Shear Walls with Headed Bars and Carbon Fiber Wrap, 1143

- Shear Analysis of Concrete with Brittle Reinforcement.
- Shear Capacity of Fiber-Reinforced Polymer-Strengthened Reinforced Concrete Beams: Fiber Reinforced Polymer Rupture, 1144
- Shear Compression Failure in Reinforced Concreted Deep Beams, 1137
- Shear Strengthening of Interior Slab-Column Connections using Carbon Fiber-Reinforced Polymer Sheets, 173
- Static and Fatigue Behavior of Reinforced Concrete Beams Strengthened with Steel Plates for Flexure.
- Tension Stiffening and Crack Formation in Reinforced Concrete Members with Fiber-Reinforced Polymer Sheets, 1154
- Tension Stiffening and Cracking of Steel Fiber-Reinforced Concrete, 981

Concrete slabs

- Alternative Shear Reinforcement for Reinforced Concrete Flat Slabs, 1197
- Engineering Considerations for Life-Slab Construction,
- Modeling Membrane Action of Concrete Slabs in Composite Buildings in Fire. I: Theoretical Development, 1190
- Modeling Membrane Action of Concrete Slabs in Composite Buildings in Fire. II: Validations, 1191
- Poststrengthening of Concrete Slabs: Full-Scale Testing and Design Recommendations, 1157
- Strength of Concrete Subjected to Pullout Load, 1020

Concrete structures

- Comparative Study of Models on Confinement of Concrete Cylinders with Fiber-Reinforced Polymer Composites, 181
- Composite Reinforcement to Strengthen Existing Concrete Structures against Air Blast, 167
- Conceptual Design for the Sunniberg Bridge, 84
- Condition Assessment of a Deteriorated Cement Works, 1055
- Coupled Mechanical and Chemical Damage in Calcium Leached Cementitious Structures, 321
- Damage Detection in Concrete by Fourier and Wavelet
- Failure Behavior and Separation Criterion for Strengthened Concrete Members with Steel Plates, 1200
- Flexural Design of Reinforced Concrete Frames by Genetic Algorithm, 1159
- Investigation of Bond in Concrete Structures Strengthened with Near Surface Mounted Carbon Fiber Reinforced Polymer Strips, 183
- Issues in Construction of a Unique Heavily Reinforced Concrete Structure, 1503
- Life Cycle Modeling of Corrosion Affected Concrete Structures-Initiation, 1032
- Life-Cycle Modeling of Corrosion-Affected Concrete Structures: Propagation, 1158
- Nondestructive Evaluation of Concrete Infrastructure with Ground Penetrating Radar, 995 Nonlinear Vibration Characteristics of Damaged Con-
- crete Beams, 1112
- Research into a Management System for Diagnosis, Maintenance, and Repair of Concrete Structures, 260
- Static and Fatigue Behavior of Reinforced Concrete Beams Strengthened with Steel Plates for Flexure.

SUBJECT INDEX

Tendon Model for Nonlinear Analysis of Externally Prestressed Concrete Structures, 1094

Thermal Movements in Concrete: Case Study of Multistory Underground Car Park, 1026

Cone penetration

Case History Evaluation of Laterally Loaded Piles, 596 Evaluation of Cone Penetration Test-Based Settlement Prediction Methods for Shallow Foundations on Cohesionless Soils at Highway Bridge Construction

Cone penetration tests

Estimation of Load Capacity of Pipe Piles in Sand Based on Cone Penetration Test Results, 617

High Overburden Stress Effects in Liquefaction Analyses, 683

Simplified Cone Penetration Test-Based Method for Evaluating Liquefaction Resistance of Soils, 584

Confinement

Bond between Carbon Fiber Reinforced Polymer Bars and Concrete. 1: Experimental Study, 174

Comparative Study of Models on Continement of Concrete Cylinders with Fiber-Reinforced Polymer Composites, 181

Drift Capacity of Rectangular Reinforced Concrete Columns with Low Lateral Confinement and High-Axial Load, 1156

Modeling Confinement Efficiency of Reinforced Concrete Columns with Rectilinear Transverse Steel using Artificial Neural Networks, 1160

Nonlinear Analysis of Axially Loaded Concrete-Filled Tube Columns with Confinement Effect, 1213

Reliability of Fiber-Reinforced Polymer-Contined Reinforced Concrete Columns, 1193

Retrofit of Reinforced Concrete Columns using Partially Stiffened Steel Jackets. 1155

Seismic Retrofit of Shear Walls with Headed Bars and Carbon Fiber Wrap, 1143

Uniaxial Confinement Model for Normal- and High-Strength Concrete Columns, 1110

Conflic

Conflicts between Owner and Contractors: Proposed Intervention Process, 953

Lessons Learned from Rigid Conflict Resolution in an Organization: Construction Conflict Case Study, 948

Connecticut

Engineering Considerations for Life-Slab Construction, 1614

First of Its Kind. 1581

Northeast Passage, 1587

Connections

Behavior and Modeling of a Bolt Bearing on a Single Plate, 1162

CFRP Composite Connector for Concrete Members. 165

Connectors for Timber–Lightweight Concrete Composite Structures, 1237

Effect of Reduced Beam Section Frame Elements on

Stiffness of Moment Frames, 1122 Lap Splice Steel Connections with Stainless Steel Nails, 1206

Local Effects Induced by Longitudinal Forces in Composite Girders, 100

Repair of Cracked Aluminum Overhead Sign Structures with Glass Fiber Reinforced Polymer Composites, 170

Shear Connection Nonlinearity and Deflections of Steel-Concrete Composite Beams: A Simplified Method, 1085

Shear Strengthening of Interior Slab-Column Connections using Carbon Fiber-Reinforced Polymer Sheets, 173

State of Practice for Positive Moment Connections in Prestressed Concrete Girders Made Continuous, 102

Connections, bolted

Cyclic Load Tests and Analysis of Bolted Top-and-Seat Angle Connections, 1244

Hybrid Beam-Column Element with End Frictional Joints, 344

Nonlinear Analysis as a Diagnostic Tool for the Strengthening of an Old Wooden Dome, 1223

Connections, semi-rigid

Hybrid Beam-Column Element with End Frictional Joints, 344

Connections, welded

Experimental Investigation on European Welded Connections, [21]

Longitudinal Plate and through Plate-to-Hollow Structural Section Welded Connections, 1130 Welded Tee-to-HSS Connections, 1100

Connectors, mechanical

Connectors for Timber-Lightweight Concrete Composite Structures, 1237

Conservatio

Case Study of the Failure of a Cross Vault: Church of Holyrood Abbey, 66

Consolidation

Consolidation of Clay with a System of Vertical and Horizontal Drains, 657

Consolidation of Clays for Variable Permeability and Compressibility, 675

Disturbed State Model for Porous Saturated Materials, 24

Effects of Consolidation History on Critical State of Sand, 612

Factors Affecting Long-Term Efficiency of Compensation Grouting in Clays, 603

Viscosity Effects on One-Dimensional Consolidation of Clay, 21

Consolidation, soils

Piecewise-Linear Model for Large Strain Radial Consolidation, 668

Constitutive equations

Volumetric Deformation of Natural Clays, 35

Constitutive models

Analysis of Heterogeneous Composites Based on Moving-Window Techniques, 397

Computational Model for Cyclic Mobility and Associated Shear Deformation, 688

Concrete Uniaxial Tensile Strength and Cylinder Splitting Test, 1151

Constitutive Behavior of Geosynthetic Interfaces, 10

Constitutive Model for Concrete with Embedded Sets of Reinforcement, 363

Constitutive Model for Static Liquefaction, 25

- Disturbed State Model for Porous Saturated Materials, 24
- Electrorheological and Magnetorheological Duct Flow in Shear-Flow Mode using Herschel-Bulkley Constitutive Model, 437
- Fully Coupled Analysis of Failure and Remediation of Lower San Fernando Dam, 611
- Method for Performing Accelerated Characterization of Viscoelastic Constitutive Behavior of Asphaltic Concrete, 1021
- Modeling the Stress-Strain Relations of Sand in Cyclic Plane Strain Loading, 622
- Pressure-Level Dependency and Densification Behavior of Sand through Generalized Plasticity Model, 377
- Variable Bulk Modulus Constitutive Model for Sand, 593

Constitutive relations

Time-Dependent Back Analysis of a Multianchored Pile Retaining Wall, 586

Constraint

Constraint-Based Planning with Integrated Production Scheduler over Internet, 232

Constructability

Constructability Considerations for Balanced Cantilever Construction, 1499

Construction

- Automated Path Planning of Cooperative Crane Lifts Using Heuristic Search, 147
- Baseline Determination in Construction Labor Productivity-Loss Claims, 957
- Comparison of Linear Scheduling Model and Repetitive Scheduling Method, 204
- Evaluating Risk in Construction—Schedule Model (ERIC-S): Construction Schedule Risk Model, 256
- Issues in Construction of a Unique Heavily Reinforced Concrete Structure, 1503
- Java Inspection Framework: Developing Field Inspection Support Systems for Civil Systems Inspection, 149
- Knowledge and Reasoning for MEP Coordination, 268 Making the Transition, 1566
- New Method for Calculating Path Float in Program Evaluation and Review Technique (PERT), 254
- No-Damages-for-Delay Clause: Evaluating Contract Delay Risk, 1083
- Risk Assessment in Construction, 253
- Scorecard Approach to Benchmarking Organizational Safety Culture in Construction, 207
- Soil Behavior and Soft Ground Construction, 1640
- Sustainability in Public Facilities: Analysis of Guidance Documents, 1037
- Sustainable Practices to Meet Shelter Needs in India, 1371
- Undergraduate Research Mentoring Model in Construction Engineering and Management, 205
- Unified Modeling Methodology for Construction Simulation, 11
- Validation of Vibration-Based Onboard Asphalt Density Measuring System, 197
- World Survey of Civil Engineering Programs on Fiber Reinforced Polymer Composites for Construction,

Construction costs

An Ontology for Relating Features with Activities to Calculate Costs, 151

Construction equipment

- Automated Path Planning of Cooperative Crane Lifts Using Heuristic Search, 147
- Probabilistic Nonroad Mobile Source Emission Factors, 461
- Tunnel Boring Machines, 1509

Construction industry

- Achieving Client Satisfaction for Engineering Consulting Firms, 958
- Analysis of Occupational Injuries and Fatalities in Electrical Contracting Industry, 214
- Applying Handheld Computers in the Construction Industry, 1517
- Benchmarking, Benchaction, and Benchlearning: Rework Mitigation in Projects, 956
- Competitive Bid versus Negotiated Bid in Commercial Construction Industry—One Contractor's Perspective, 1506
- Competitiveness of Inexperienced and Experienced Contractors in Bidding, 241
- Conflicts between Owner and Contractors: Proposed Intervention Process, 953
- Constraint-Based Planning with Integrated Production Scheduler over Internet, 232
- Construction in Hong Kong: Success Factors for ISO9000 Implementation, 265
- Cultural Considerations in International Construction Contracts, 239
- Differentiation, Conformity, and Construction Firm Performance, 944
- Effectiveness of Dispute Review Boards, 273 Effects of Tariff Design in Rish Management of Pri-
- vately Financed Infrastructure Projects, 266 Enterprise Resource Planning for Construction Busi-
- ness Management, 222 Evaluating and Comparing Bidding Optimization Effectiveness, 231
- Factors that Influence Safety Performance of Specialty Contractors, 215
- Forecasting Construction Staffing for Transportation Agencies, 952
- Housing Quality: Implications for Design and Management, 1377
- Impact of Information Technology on Facility Engineering, 924
- Integrated Electronic Commerce Model for the Construction Industry, 263
- Integrating ISO 9001 and OHSAS 18001 for Construction, 236
- Internationalization of Chinese Construction Enterprises, 264
- Internet-Based Information Management for Production Builders, 922
- ISO 14000 and the Construction Industry: Survey in China, 951
- ISO 9000 and the U.S. Construction Industry, 946
- IT Strategy for Construction Compaines: A Pragmatist's Vision, 923
- Labor Productivity Drivers and Opportunities in the Construction Industry, 947
- Labor-Management Cooperation and Customer Satisfaction, 216

- Management's Perception of Key Performance Indicators for Construction, 213
- Master Builder Project Delivery System and Designer Construction Knowledge, 269
- Measuring Productivity: An Industry Challenge, 1600 The Mission of the Civil Engineer in the Movement of
- Globalization, 925 Multiagent System for Construction Claims Negotiation, 145
- Object-Oriented Model for Customer-Building Company Interaction in Mass Customization Environment, 233
- Okada Trucking Bombshell, 1074
- Optimized Scheduling of Linear Projects, 272
- Pilot Study of Quality Function Deployment in Construction Projects, 234
- Predicting Accuracy of Early Cost Estimates using Factor Analysis and Multivariate Regression, 220
- Resolution of Construction Disputes: A Review of Current Methodologies, 936
- Safety as a Value in Engineering and Construction, 912
 Software for Planning and Cost Control in Directional
- Software for Planning and Cost Control in Directional Drilling Projects, 248 Strategic Perspective of Turkish Construction Compa-
- nies, 942

 System Dynamics Approach to Exploring Performance Enhancement in a Construction Organization, 257
- Targeted Portals: Facilitating Innovation in Building Technology through Online Resources, 919
- Ten Commandments of Better Contracting: A Practical Guide to Adding Value to an Enterprise Through More Effective SMART Contracting, 1643
- Toxic Mold: Latest Construction Defect, 1075
- Unabsorbed Overhead and the Eichleay Formula, 1081
- Virtual Teams: Guide to Successful Implementation, 950
- XML for Capital Facilities, 920

Construction management

- Application of Fuzzy Logic to Simulation for Construction Operations, 131
- Communication Patterns in Construction at Construction Manager Level, 262
- Construction Control of Reinforced Concrete Arch Bridges, 75
- The Construction Manager as a Leader, 918
- Construction Research Congress In Construction -Wind of Change: Integration and Innovation, 1611
- Critical Success Factors for Value Management Studies in Construction, 252
- Design Review Checking System with Corporate Lessons Learned, 251
- Effective Construction Management, 917
- Enterprise Resource Planning for Construction Business Management, 222
- Estimation of Minimum Working Capital for Construction Projects in Malaysia, 238
- Genetic Optimization for Dynamic Project Control, 242
- How to Evaluate and Invest in Emerging A/E/C Technologies under Uncertainty, 199
- Impacts of Obstacles in East Asian Cross-Border Construction, 212
- Implementing Radio Frequency Identification in the Construction Process, 274

- Implications of Even Flow Production Methodology for U.S. Housing Industry, 235
- Interface Management within Construction: In Particular, Building Facade, 198
- Is Construction Labor Productivity Really Declining?, 202
- Knowledge Mining of Information Sources for Research in Construction Management, 218
- Lessons Learned from Rigid Conflict Resolution in an Organization: Construction Conflict Case Study, 948
- Modeling the Construction Management Process to Support Situational Simulations, 154
- Multistep Dispute Resolution in Design and Construction Industry, 1066
- Neuro-Fuzzy Logic Model for Freeway Work Zone Capacity Estimation, 1342
- Object-Oriented Evolutionary Fuzzy Neural Inference System for Construction Management, 250
- Optimal Project Organizational Structure for Construction Management, 206
- Partnering in Construction: Critical Study of Problems for Implementation, 954
- Predicting Cost Deviation in Reconstruction Projects: Artificial Neural Networks versus Regression, 243
- Quality, Environmental, and Health and Safety Management Systems for Construction Engineering, 261
- Reengineering of Construction Management Process, 210
- Resource Optimization using Combined Simulation and Genetic Algorithms, 276
- Strategic Management: Consideration of Paradoxes, Processes, and Associated Concepts as Applied to Construction, 960
- Undergraduate Research Mentoring Model in Construction Engineering and Management, 205
- Web-Based Centralized Multiclient Cooperative Contractor Registration System, 130

Construction materials

- Alkali-Silica Reaction—Possible Cause of Map Cracking in Gunite, 1048
- Biaxial Failure Model for Fiber Reinforced Concrete,
- Framework for Recycling of Wastes in Construction,
- High Performance Materials in Bridges, 1622
- Internet-Based Geographical Information Systems System for E-Commerce Application in Construction Material Procurement, 275
- Physical and Chemical Properties of Recycled Tire Shreds for Use in Construction, 551
- Use of Residential Construction Waste and Residues from Red Ceramic Industry in Alternative Mortars, 550.

Construction methods

Here Comes the Judge—Duties and Responsibilities of Design Proffessionals When Deciding Disputes, 1076

Construction planning

- Construction Robot Path-Planning for Earthwork Operations, 136
- Four-Dimensional Modeling to Support Construction Planning of the Stata Center Project, 921
- HKCONSIM: A Practical Simulation Solution to Planning Concrete Plant Operations in Hong Kong, 259

- Resource-Activity Critical-Path Method for Construction Planning, 244
- Simplified Discrete-Event Simulation Approach for Construction Simulation, 258

Construction site accidents

Analysis of Construction Worker Fall Accidents, 228

Consulting services

- Achieving Client Satisfaction for Engineering Consulting Firms, 958
- Lean Management of Environmental Consulting, 940
- Management Online: Mining the Full Potential of the Intranet, 931
- Technical, Managerial, and Organizational CHanges in Adapting an E-Commerce Model in Civil Engineering Design and Consulting Services, 937

Contacts

Modified Shear Spring Formulation for Discontinuous

Container transportation

- Estimating Total Distance for Hauling Import and Export Containers, 1318
- Ship Traffic Modeling Methodology for Ports, 1449
- Simulation Analysis for Midterm Yard Planning in Container Terminal, 1447

Containment

Waste Immobilization Technologies, 1467

Contaminants

- Contaminant Transport in Fissured Soils by Three-Dimensional Boundary Elements, 19
- Decontamination of Radionuclides from Concrete by Microwave Heating. 1: Theory, 368
- Decontamination of Radionuclides from Concrete by Microwave Heating. II: Computations, 369
- Durability of Boston Blue Clay in Waste Containment Applications, 977
- Multiple-Porosity Model for the Transport of Reactive Contaminants in Fissured Soils with Nonequilibrium Partitioning, 30
- Plasma-Assisted Process for Removing NO/NO, from Gas Streams with C₂H₄ as Additive, 537
- Total and Volatile Polyaromatic Hydrocarbon Losses during Aerobic Slurry Phase Biotreatment, 1482

Contamination

- Bacteriophages MS2 and PRD1 in Turfgrass by Subsurface Drip Irrigation, 543
- Decontamination of Radionuclides from Concrete by Microwave Heating. 1: Theory, 368
- Decontamination of Radionuclides from Concrete by Microwave Heating. 11: Computations, 369
- Inexact Multiphase Modeling System for the Management of Subsurface Contamination under Uncertainty, 1471
- Relating Batch and Column Diffusion Coefficients for Leachable Contaminants in Particulate Waste Materials, 552
- Removal of Trichloroethylene from Clay Soil by Series-Electrokinetic Process, 1464
- Toxic Mold: Latest Construction Defect, 1075

Continuing education

Educational Needs Assessment for Design/Build Project Delivery, 1069

Continuous beams

- Concentrations of Pressure between an Elastically Supported Beam and a Moving Timoshenko-Beam, 399
- Response of Continuous System with Stochastically Varying Surface Roughness to Moving Load, 366

Continuous structures

State of Practice for Positive Moment Connections in Prestressed Concrete Girders Made Continuous, 102

Contract administration

- Here Comes the Judge—Duties and Responsibilities of Design Proffessionals When Deciding Disputes, 1076
- Ten Commandments of Better Contracting: A Practical Guide to Adding Value to an Enterprise Through More Effective SMART Contracting, 1643

Contraction

Proposed Design Method for Thermal Bridge Movements, 72

Contractors

- Analysis of Occupational Injuries and Fatalities in Electrical Contracting Industry, 214
- Competitive Bid versus Negotiated Bid in Commercial Construction Industry—One Contractor's Perspective, 1506
- Competitiveness of Inexperienced and Experienced Contractors in Bidding, 241
- Conflicts between Owner and Contractors: Proposed Intervention Process, 953
- Effectiveness of Dispute Review Boards, 273
- Estimation of Minimum Working Capital for Construction Projects in Malaysia, 238
- Factors that Influence Safety Performance of Specialty Contractors, 215
- Implementing Radio Frequency Identification in the Construction Process, 274
- Indicator Variables Model of Firm's Size-Profitability Relationship of Electrical Contractors using Financial and Economic Data, 219
- Internationalization of Chinese Construction Enterprises, 264
- Okada Trucking Bombshell, 1074
- Performance in International Construction Joint Ventures: Modeling Perspective, 267
- Quality, Environmental, and Health and Safety Man-
- agement Systems for Construction Engineering, 261 Risk Allocation and Rish Handling of Highway Projects in Taiwan, 945
- Unabsorbed Overhead and the Eichleay Formula, 1081 Web-Based Centralized Multiclient Cooperative Con-
- tractor Registration System, 130
 Workforce Demographics among Project Engineering Professionals—Crisis Ahead?, 959

Contracts

- Alternative Dispute Resolution in U.S. Public Works: Proposed Model, 1065
- Cultural Considerations in International Construction Contracts, 239
- Early Planning and Decisions on the Southeast Corridor Project, 929
- Joining Forces, 1585
- No-Damages-for-Delay Clause: Evaluating Contract Delay Risk, 1083
- Resolution of Construction Disputes: A Review of Current Methodologies, 936

Ten Commandments of Better Contracting: A Practical Guide to Adding Value to an Enterprise Through More Effective SMART Contracting, 1643

Control

Chemical Control of Struvite Precipitation, 491

Control methods

Active Magnetic Control Methods for Small Satellite, 42

Active Multiple Tuned Mass Dampers: A New Control Strategy, 1178 Adaptive Fuzzy Control for Nonlinear Building-

Magnetorheological Damper System, 1171

Control of Civil Structure Using an Electric Machine with Semiactive Capability, 1176

Control of Seismically Excited Cable-Stayed Bridge Employing Magnetorheological Fluid Dampers,

"Convexifying" Linear Matrix Inequality Methods for Integrating Structure and Control Design, 1179

Identification of Simplified Models Using Adaptive Control Techniques, 1180

Instantaneous Optimal Wilson-Θ Control Method, 418

Phase I Benchmark Control Problem for Seismic Response of Cable-Stayed Bridges, 1167

Control systems

Applications of Some Semiactive Control Systems to Benchmark Cable-Stayed Bridge, 1169

Semiactive Structural-Control Based on Variable Slip-Force Level Dampers, 1174

Cooling

Economizer Application in Dual-Duct Air-Handling Units, 68

Passively Cooled Railway Embankments for Use in Permafrost Areas, 123

Cooling towers

Scale Transition in Steel-Concrete Interaction. II: Applications, 329

Cooling water

Hydrodynamic Modeling of Coastal LNG Cooling Water Discharge, 278

Coriolis effect

Dean Equations Extended to a Rotating Helical Pipe Flow, 373

Corners

Visibility Effectiveness of Hemisphere and Corner Cube Retroreflective Pavement Markers on Curved Roads, 1292

Correlation

Accuracy of Digital Image Correlation for Measuring Deformations in Transparent Media, 135

Correlation of Rheological Properties to Durability and Strength of Hardened Concrete, 1007

Correlation Survey for Shaft Deepening in Digwadih Underground Coal Mine, 1260

Effect of Temporal Physical Correlation on Accuracy Estimation in GPS Relative Positioning, 1259

First- and Higher-Order Correlation Detection using Wavelet Transforms, 305

Identification of Statistically Homogenous Soil Layers Using Modified Bartlett Statistics, 640

Plastic Limit, Liquid Limit and Undrained Shear Strength of Soil—Reappraisal, 651

Corrosion

Atmospheric Corrosion Resistance of Structural Steels, 961

Bond Behavior of Corroded Steel Reinforcement in Concrete Wrapped with Carbon Fiber Reinforced Polymer Sheets, 1004

Corrosion Condition Evaluation at Muddy Creek Bridge, 1057

Corrosion of Steel Bars in Cracked Concrete under Marine Environment, 1016

Corrosion of Steel Reinforcement in Carbon Fiber-Reinforced Polymer Wrapped Concrete Cylinders, 193

Degradation of Drinking Water Treatment Plant Infrastructure from Enhanced Coagulation, 856

Durability of Glass Polymer Composites Subject to Stress Corrosion, 169

Effectiveness of Impresssed Current Technique to Simulate Corrosion of Steel Reinforcement in Concrete, 064

Environmental Effects on the Short-Term Bond of Carbon Fiber-Reinforced Polymer (CFRP) Composites, 163

A Higher Profile, 1563

Life Cycle Modeling of Corrosion Affected Concrete Structures—Initiation, 1032

Life-Cycle Modeling of Corrosion-Affected Concrete Structures: Propagation, 1158

Location of Prestressing Steel Fractures in Concrete, 988

Multiple Limit States and Expected Failure Costs for Deteriorating Reinforced Concrete Bridges, 116

Probabilistic Model for Marine Corrosion of Steel for Structural Reliability Assessment, 1231

Residual Life of Corroding Reinforced Concrete Structures in Marine Environment, 1002 Statistical Prediction of Atmospheric Corrosion from

Atmospheric-Pollution Parameters, 1483 Ultrasonic Guided Waves for Inspection of Grouted Tendons and Bolts, 986

Cost allocation

Risk-Based Expenditure Allocation for Infrastructure Improvement, 115

Cost analysis

Analysis of Costs and Benefits of Tall Buildings, 245 Financial Viability of Fiber-Reinforced Polymer (FRP) Bridges, 938

Cost control

An Alternative Approach, 1573

Estimation of Minimum Working Capital for Construction Projects in Malaysia, 238

Integrated Electronic Commerce Model for the Construction Industry, 263

Life-Cycle Reliability-Based Maintenance Cost Optimization of Deteriorating Structures with Emphasis on Bridges, 1165

Predicting Cost Deviation in Reconstruction Projects: Artificial Neural Networks versus Regression, 243

Probabilistic Model for Cost Contingency, 230

Project Management Actions to Improve Design Phase Cost Performance, 941

Software for Planning and Cost Control in Directional Drilling Projects, 248

Cost estimates

- An Ontology for Relating Features with Activities to Calculate Costs, 151
- Predicting Accuracy of Early Cost Estimates using Factor Analysis and Multivariate Regression, 220

- Costs of Best Management Practices and Associated Land for Urban Stormwater Control, 1385
- Decommissioning Cost Functions in the Gulf of Mexico. 1460
- Estimating Future Highway Construction Costs, 229
- Evaluation of Expected Life-Cycle Maintenance Cost of Deteriorating Structures, 1150
- Freeway Work Zone Traffic Delay and Cost Optimization Model, 1311
- Frontage Roads: Assessment of Legal Issues, Design Decisions, Costs, Operations, and Land-Development Differences, 1312
- Hurricane Risks and Economic Viability of Strengthened Construction, 1519
- Hydrological and Fiscal Impacts of Residential Development: Virginia Case Study, 1390
- Impacts of Obstacles in East Asian Cross-Border Construction, 212
- Inlet Pressure, Energy Cost, and Economic Design of Tapered Irrigation Submains, 870
- Modeling Dredging Project Cost Variations, 1459
- Multiple Limit States and Expected Failure Costs for Deteriorating Reinforced Concrete Bridges, 116
- Performance, Cost, and Maintenance Requirements of Austin Sand Filters, 1402
- Portable Meter System for Dry Weight Control in Dredging Hoppers, 1436
- Trade-Offs between Initial and Maintenance Costs of Highways in Cross-Slopes, 842
- Unabsorbed Overhead and the Eichleay Formula, 1081

Coupling

- Analytical Solution for Fluid-Structure Interaction in Liquid-Filled Pipes Subjected to Impact-Induced Water Hammer, 432
- Thermochemomechanical Assessment of Ground Improvement by Jet Grouting in Tunneling, 387

Court decisions

Okada Trucking Bombshell, 1074

Coverings

Examining the Alternatives, 1568 Performance of Bonded Bridge Deck Overlays in Ala-

bama, 1493 Crack propagation

- Analytical Prediction of Fatigue Crack Propagation in Metals, 357
- Asymptotic Matching Analysis of Scaling of Structural Failure Due to Softening Hinges. I: Theory, 353
- Fatigue Strength of Steel Girders Strengthened with Carbon Fiber-Reinforced Polymer Patch, 1104
- Numerical Analysis of Multiple Discrete Cracks in Concrete Dams using Extended Fictitious Crack Model, 1117

Cracking

- Alkali-Silica Reaction-Possible Cause of Map Cracking in Gunite, 1048
- Analysis of Edge-Detection Techniques for Crack Identification in Bridges, 152

- Application of Fiber-Reinforced Polymer Overlays to Extend Steel Fatigue Life, 192
- Assessing Damage of Reinforced Concrete Beam using "b-value" Analysis of Acoustic Emission Signals, 004
- Behavior of Laterally Loaded Large-Section Barrettes,
- Cohesive Fracturing and Stresses Caused by Hydration Heat in Massive Concrete Wall, 286
- Corrosion of Steel Bars in Cracked Concrete under Marine Environment, 1016
- Coupled Mechanical and Chemical Damage in Calcim Leached Cementitious Structures, 32
- Durability of Boston Blue Clay in Waste Containment Applications, 977
- Durability of Glass Polymer Composites Subject to Stress Corrosion, 169
- Empirical-Mechanistic Method-Based Stochastic Modeling of Fatigue Damage to Predict Flexible Pavement Cracking for Transportation Infrastructure Management, 1296
- Energy Release Rate due to Friction at Bimaterial Interface in Dams, 370
- Failure Process of Granite, 20
- Finite-Element Analysis of Steel Bridge Distortion-Induced Fatigue, 101
- Full-Scale Fatigue Tests of Steel Orthotropic Decks for the Williamsburg Bridge, 108
- Inelastic Behavior and Ductility Capacity of Reinforced Concrete Bridge Piers under Earthquake. 1: Theory and Formulation, 1201
- Influence of Bond Slip on Crack Spacing in Numerical Modeling of Reinforced Concrete, 1234
- Long-Term Deflection and Cracking Behavior of Concrete Beams Prestressed with Carbon Fiber-Reinforced Polymer Tendons, 177
- Mechanism Controlling Permeability Change in Clays due to Changes in Pore Fluid, 594
- Nondestructive Crack Detection Algorithm for Full-Scale Bridges, 1217
- Numerical Analysis of Multiple Discrete Cracks in Concrete Dams using Extended Fictitious Crack
- Practical Tool to Accurately Estimate Tensile Stresses in Concrete Bridge Decks to Control Transverse Cracking, 1501
- Real-Time Image Thresholding Based on Sample Space Reduction and Interpolation Approach, 153
- Residual Life of Corroding Reinforced Concrete Structures in Marine Environment, 1002
- Shear Connection Nonlinearity and Deflections of Steel-Concrete Composite Beams: A Simplified
- Signal-Based Acoustic Emission Techniques in Civil Engineering, 993
- Tension Stiffening and Crack Formation in Reinforced Concrete Members with Fiber-Reinforced Polymer Sheets, 1154
- Tension Stiffening and Cracking of Steel Fiber-Reinforced Concrete, 981
- Thermal-Structural Modeling and Temperature Control of Roller Compacted Concrete Gravity Dam, 1054
- Vibratory Characteristics of Timoshenko Beams with Arbitrary Number of Cracks, 427

Cranes

Automated Path Planning of Cooperative Crane Lifts Using Heuristic Search, 147

Creen

Creep Analysis of Axially Loaded Fiber Reinforced Polymer-Confined Concrete Columns, 422

Creep Modeling in Excavation Analysis of a High Rock Slope, 658

Creep of Polymer Matrix Composites. I: Norton/ Bailey Creep Law for Transverse Isotropy, 318

Creep of Polymer Matrix Composites. II: Monkman-Grant Failure Relationship for Transverse Isotropy, 319

Creep of Wood I-Joists Exposed to Abnormally High Moisture Conditions, 1497

Effect of Creep and Shrinkage on RC Frames with High Beam Stiffness. 1136

Influence of Long-Term Loads on Concrete Column Strength, 1500

Load-Duration Behavior of Wood-Plastic Composites, 1024

Nonlinear Creep Damage Model for Concrete under Uniaxial Compression, 398

Performance of Tension and Compression Anchors in Weathered Soil, 690

Residential Floor Systems: Wood I-Joist Creep Behavior, 61

Creep rupture

Formulation of L₁ Norm Minimization in Gauss-Markov Models, 1261

Long-Term Properties and Transfer Length of Fiber-Reinforced Polymers. 158

Creosote

Field and Laboratory Evaluation of the Impact of Tall Fescue on Polyaromatic Hydrocarbon Degradation in an Aged Creosote-Contaminated Surface Soil, 470

Critical path method

New Method for Calculating Path Float in Program Evaluation and Review Technique (PERT), 254

Phantom Float, 255

Resource-Activity Critical-Path Method for Construction Planning, 244

Crop

Estimating Actual Evapotranspiration from Limited Climatic Data using Neural Computing Technique, 883

Modeling Reservoir Irrigation in Uncertain Hydrologic Environment, 877

Cross sections

Digital Elevation Model Based Volume Calculations using Topographical Data, 1264

Evaluation of Numerical Models of Flood and Tide Propagation in Channels, 4

Fatigue Response of New Graphite/Epoxy-Concrete Girder, 162

Hydraulically Efficient Power-Law Channels, 861

Local Buckling of Fiber-Reinforced Plastic Composite Structural Members with Open and Closed Cross Sections, 1233

Culverts

Comparison of Risk Calculation Methods for a Culvert, 707

A Culvert for Abram Creek, 1597

Currents

Coupling an Underflow Model to a Three-Dimensional Hydrodynamic Model, 769

Influence of Turbulence on Bed Load Sediment Transport, 755

Curricula

Building Research Skills: Course-Integrated Training Methods, 1061

Combining Service Learning with Graduate Education, 1078

Course in Professional Practice Issues, 1063

Implementing an Inclusive Curriculum for Women in Engineering Education, 1077

Implementing Sustainable Development through Problem-Based Learning: Pedagogy and Practice, 1079

Omission of Critical Reynolds Number for Open Channel Flows in Many Textbooks, 1064

Teachable Moments and the Tyranny of the Syllabus: September 11 Case, 1068

Curtain walls

Seismic Behavior of Curtain Walls Containing Insulating Glass Units, 63

Curvature

Curvature and Bending Moments from Inclinometer Data, 18

Dean Equations Extended to a Rotating Helical Pipe Flow, 373

Development of Boundary Structures for Complex-Shaped Buildings, 59

Effect of Vertical Alignment on Driver Perception of Horizontal Curves, 1331

Graphical Solution for Vertical Curve Computation, 1275

Modeling the Stress-Strain Relations of Sand in Cyclic Plane Strain Loading, 622

Cyclic loads

Behavior of Roof Deck Diaphragms under Quasistatic Cyclic Loading, 1248

Behavior of Shear Studs Subjected to Fully Reversed Cyclic Loading, 1229

"Bizxiality Effect" on the Energy Dissipated by Elastoplastic Base-Isolators, 349

Cyclic Flexure Tests of Masonry Walls Reinforced with Glass Fiber Reinforced Polymer Sheets, 159

Cyclic Load Tests and Analysis of Bolted Top-and-Seat Angle Connections, 1244

Effect of Waveform and Loading Sequence on Low-Cycle Compressive Fatigue Life of Spruce, 971

Effects of Loading Protocol on the Cyclic Response of Woodframe Shearwalls, 1220

Experimental Investigation of Bonded Fiber Reinforced Polymer-Concrete Joints under Cyclic Loading, 171

Experimental Investigation on European Welded Connections, 1211

Hybrid Beam-Column Element with End Frictional Joints, 344

Inelastic Cyclic Model for Steel Braces, 342

Modeling Reinforced-Concrete Beam-Column Joints Subjected to Cyclic Loading, 1251

Modeling the Stress-Strain Relations of Sand in Cyclic Plane Strain Loading, 622

Cyclic loads

2003 ASCE TRANSACTIONS

Pressure-Level Dependency and Densification Behavior of Sand through Generalized Plasticity Model. 377

Relating K., to Relative State Parameter Index, 650

Strain-Rate Effect on Soil Secant Shear Modulus at Small Cyclic Strains, 630

Tests of Cold-Formed Circular Tubular Braces under Cyclic Axial Loading, 1133

Unbonded Posttensioned Concrete Bridge Piers. 1: Monotonic and Cyclic Analyses, 81

Cyclic plasticity

Computational Model for Cyclic Mobility and Associated Shear Deformation, 688

Cyclic strength

Behavior of Shear Studs Subjected to Fully Reversed Cyclic Loading, 1229

Cyclic Performance of Concrete-Backed Stone Masonry Walls, 1142

Postcyclic Degradation of Strength and Stiffness for Low Plasticity Silt, 649

Cyclic tests

Cyclic Testing of Built-Up Steel Shear Links for the New Bay Bridge, 1163

Experimental Study on Steel Shear Wall with Slits,

Strain-Rate Effect on Soil Secant Shear Modulus at Small Cyclic Strains, 630

Cyclones

Exaggeration of Wind Conditions in Hurricane Floyd and Other Tropical Cyclones, 1521

Modeling Tropical Cyclone Wave Population of the Great Barrier Reef, 1439

Cylinders

Convection Velocity of Vortex Structures in the Near Wake of a Circular Cylinder, 402

Corrosion of Steel Reinforcement in Carbon Fiber-Reinforced Polymer Wrapped Concrete Cylinders, 193

Investigation of Two- and Three-Dimensional Models of Transitional Flow Past a Square Cylinder, 423

Poromechanics of Anisotropic Hollow Cylinders, 419

Submerged Ordnance and Unrestrained Cylinder Movement in Coastal Zone, 1442

Cylindrical shells

Buckling and Postbuckling of Antisymmetrically Laminated Cross-Ply Shear-Deformable Cylindrical Shells under Axial Compression, 295

Buckling of Vertical Cylindrical Shells under Combined End Pressure and Body Force, 379

Case Study of the Failure of a Cross Vault: Church of Holyrood Abbey, 66

Imperfection Sensitivity of Laminated Cylindrical Shells According to Different Shell Theories, 396

Dam construction

Building the Olivenhain, 1558

A Visit to the Yangtze River and the Three Gorges Dam: Reflections from a People to People Ambassador Program in China, 915

Dam design

Hydraulic Design of Stepped Spillways, 762

Dam failure

Dam-Breach Flood Wave Propagation using Dimensionless Parameters, 772

Explicit Schemes for Dam-Break Simulations, 694
Fully Coupled Analysis of Failure and Remediation of
Lower San Fernando Dam, 611

Practical Aspects in Comparing Shock-Capturing Schemes for Dam Break Problems, 711

Time for Development of Internal Erosion and Piping in Embankment Dams, 608

am foundations

Energy Release Rate due to Friction at Bimaterial Interface in Dams, 370

Some Uncertainties in Embankment Dam Engineering, 652

Damage

Application of Dynamic System Identification to Timber Bridges, 1096

Assessment of Risk due to Debris Flow Events, 1532 Continement-Shear Lattice Model for Concrete Dam-

age in Tension and Compression: I. Theory, 435 Confinement-Shear Lattice Model for Concrete Damage in Tension and Compression: II: Computation and Validation, 436

Coupled Mechanical and Chemical Damage in Calcium Leached Cementitious Structures, 321

Damage Detection Based on Single-Input-Single-Output Measurements, 306

Damage Detection in Concrete by Fourier and Wavelet Analyses, 345

Damage Model Based Reinforced-Concrete Element, 1005

Empirical-Mechanistic Method-Based Stochastic Modeling of Fatigue Damage to Predict Flexible Pavement Cracking for Transportation Infrastructure Management, 1296

Fatigue and Healing Characterization of Asphalt Mixtures, 969

Hurricane Risks and Economic Viability of Strengthened Construction, 1519

Hurricane Vulnerability in Latin America and the Caribbean: Normalized Damage and Loss Potentials, 1531

The Impact of Volcanic Eruptions during the 1990s, 1538

Modeling of Damage in Cement-Based Materials Subjected to External Sulfate Attack. 1: Formulation,

Modeling of Damage in Cement-Based Materials Subjected to External Sulfate Attack. II: Comparison with Experiments, 998

Nonlinear Creep Damage Model for Concrete under Uniaxial Compression, 398

Nonlinear Vibration Characteristics of Damaged Concrete Beams, 1112

Numerical Simulation on Damage and Failure of Brittle Rocks under Different Confining Pressures, 37

Damage accumulation

Optimal S-N Testing for Variable-Amplitude Fatigue Applications, 1166

Damage assessment

Evaluation of Damage and P-Δ Effects for Systems under Earthquake Excitation, 1184

Projecting Building Inventory Changes and the Effect on Hurricane Risk, 1379

- Quantitative Model to Forecast Changes in Hurricane Vulnerability of Regional Building Inventory, 846
- Seismic Damage and Collapse Assessment of Composite Moment Frames, 7
- Structural Damage Detection and Assessment from Modal Response, 299

Damage patterns

- Case History of Damage to a School Building Caused by Differentially Heaving Bedrock, 1046
- Seismic Damage and Collapse Assessment of Composite Moment Frames, 7

Damping

- Accuracy of Time History Analysis of Impulses, 1120
- Active Multiple Tuned Mass Dampers: A New Control Strategy, 1178
- Adaptive Fuzzy Control for Nonlinear Building-Magnetorheological Damper System, 1171
- Advances in Ritz Vector Identification, 1194
- Control of Civil Structure Using an Electric Machine with Semiactive Capability, 1176
- Control of Seismically Excited Cable-Stayed Bridge Employing Magnetorheological Fluid Dampers, 1168
- Control of Wind-Induced Self-Excited Oscillations by Transfer of Internal Energy to Higher Modes of Vibration. I: Analysis in Two Degrees of Freedom, 339
- Control of Wind-Induced Self-Excited Oscillations by Transfer of Internal Energy to Higher Modes of Vibration. II: Application to Taut Cables, 340
- Damping Evaluation using Full-Scale Data of Buildings in Japan, 1129
- Damping in Cantilevered Traffic Signal Structures under Forced Vibration, 1121
- Design of Amplified Structural Damping using Optimal Considerations, 1224
- Earthquake Response of Elastic Single-Degree-of-Freedom Systems with Nonlinear Viscoelastic Dampers, 348
- Efficacy of Tuned Mass Dampers for Bridge Flutter
- Electrorheological and Magnetorheological Duct Flow in Shear-Flow Mode using Herschel-Bulkley Constitutive Model, 437
- Evaluation of Pile Diameter Effect on Initial Modulus of Subgrade Reaction, 601
- Experimental Seismic Study of Adjacent Buildings with Fluid Dampers, 1105
- Fault Tolerance of Semiactive Seismic Isolation, 1173
- Influence of Hysteretic Behavior on Equivalent Period and Damping of Structural Systems, 1140
- Instantaneous Optimal Wilson-Θ Control Method, 418
 Nondestructive Evaluation of Tuned-Mass-Damper-Type Vibration Absorbers using Vibration Signa-
- tures, 1028

 Novel Semiactive Friction Controller for Linear Structures against Earthquakes, 1175
- Object-Oriented Modeling of Structural Analysis and Design with Application to Damping Device Configuration, 138
- Polymer Effects on the Vibration Damping Behavior of Cement, 1027
- Reliability of Applied Semiactive Structural Control System, 1172

- Seismic Analysis and Design with Maxwell Dampers,
- Semiactive Structural-Control Based on Variable Slip-Force Level Dampers, 1174
- Semiactive Tuned Liquid Column Dampers: Experimental Study, 1177
- Study on Damping Reduction Factor for Buildings under Earthquake Ground Motions, 1106
- Switching Oil Damper with Built-in Controller for Structural Control, 1170
- Tests to Structural Collapse of Single Degree of Freedom Frames Subjected to Earthquake Excitations, 1250
- Tuned Mass Dampers for Dual-Mode Buffeting Control of Bridges, 98

Dams

- Application of Fuzzy Sets Method to Identify Seepage Path through Dams, 753
- Building the Olivenhain, 1558
- Nonhydrostatic Three-Dimensional Method for Hydraulic Flow Simulation. II: Validation and Application, 713
- Nonhydrostatic Three-Dimensional Model for Hydraulic Flow Simulation. 1: Formulation and Verification, 712

Dams, arch

Analysis of Arch Dams using Coupled Trial Load and Block Element Methods, 672

Dame concrete

- Energy Release Rate due to Friction at Bimaterial Interface in Dams, 370
- Investigations of Blocks in Foundations and Abutments of Concrete Dams, 588
- Numerical Analysis of Multiple Discrete Cracks in Concrete Dams using Extended Fictitious Crack Model 1117
- Thermal-Structural Modeling and Temperature Control of Roller Compacted Concrete Gravity Dam, 1054

Dams, embankment

- A Better Barrier, 1575
- Some Uncertainties in Embankment Dam Engineering.
- Time for Development of Internal Erosion and Piping in Embankment Dams, 608

Dams, gravity

Energy Release Rate due to Friction at Bimaterial Interface in Dams, 370

Dams, rockfill

- Reservoir Routing using Steady and Unsteady Flow through Rockfill Dams, 740
- Rockfill Modulus and Settlement of Concrete Face Rockfill Dams, 665

Data analysis

- Damping Evaluation using Full-Scale Data of Buildings in Japan, 1129
- Dynamic Travel Time Prediction with Real-Time and Historic Data, 1356
- Effects of Flow Depth on Water Flow and Solute Transport in Furrow Irrigation: Field Data Analysis.
- Estimating Uncertainty in the Extreme Value Analysis of Data Generated by a Hurricane Simulation Model,

Evaluation of FWD Data for Determination of Layer Moduli of Pavements, 962

Field-Data Analysis for Stream Depletion, 824

Indicator Variables Model of Firm's Size-Profitability Relationship of Electrical Contractors using Financial and Economic Data, 219

Modeling and Forecasting Vehicular Traffic Flow as a Seasonal ARIMA Process: Theoretical Basis and Empirical Results, 1363

Overland Water Flow and Solute Transport: Model Development and Field-Data Analysis, 867

Sustainability Indices of Thermal Electrical Power Production in Greece, 463

Transportation Distance Measurement Data Quality, 134

Data collection

As-Built Information Model for Bridge Maintenance, 137

Can Labor Inputs be Measured and Controlled Automatically?, 247

Data Requirements for Load Estimation in Well-Mixed Tidal Channels, 534

Design Review Checking System with Corporate Lessons Learned, 251

Effect of Lane Width on Capacity under Mixed Traffic Conditions in India, 1301

Implementing Radio Frequency Identification in the Construction Process, 274

Java Inspection Framework: Developing Field Inspection Support Systems for Civil Systems Inspection, 149

Load-Sharing and Redistribution in a One-Story Woodframe Building, 1209

Optimal Measurement Site Locations for Inverse Transient Analysis in Pipe Networks, 1423

Sampling Adjustment Factors for Rainfall Recorded at Fixed Time Intervals, 832 Vehicle Detection Using Video Image Processing System: Evaluation of PEEK VideoTrak, 1338

Water Reservoir Control with Data Mining, 1382

Data processing

Comparing Different Global Positioning System Data Processing Techniques for Modeling Residual Systematic Errors, 1276

Digital Elevation Model Based Volume Calculations using Topographical Data, 1264

Effect of Gridding Method on Digital Terrain Model Profile Data Based on Scattered Data, 133

Ionosphere-Free Phase Combinations for Modernized GPS, 1282

Databases

Aerodynamic Loads on Tall Buildings: Interactive Database, 1123

Computer Assistance in Managing the Maintenance of Low-Slope Roofs, 150

Damping Evaluation using Full-Scale Data of Buildings in Japan, 1129

Modeling Dredging Project Cost Variations, 1459

Research into a Management System for Diagnosis, Maintenance, and Repair of Concrete Structures, 260

Datun

Trends in United States Tidal Datum Statistics and Tide Range, 1444

Debris

Assessment of Risk due to Debris Flow Events, 1532

Characterizing Debris Clouds Created in Oblique Orbital Debris Particle Impact, 56

High-Profile Tunneling, 1580

Rheological Behavior of Fine and Large Particle Suspensions, 774

Sediment Concentration Distribution of Debris Flow, 795

Decay

Bulk Decay of Chlorine in Water Distribution Systems, 1387

Water Quality Parameter Estimation in Steady-State Distribution System, 1392

Decision making

Asset Management Framework for Geotechnical Infrastructure, 852

Comparative Evaluation of Analytical and Intuitive Decision-Making, 943

Early Planning and Decisions on the Southeast Corridor Project, 929

Frontage Roads: Assessment of Legal Issues, Design Decisions, Costs, Operations, and Land-Development Differences, 1312

Modeling the Construction Management Process to Support Situational Simulations, 154

Predicting Accuracy of Early Cost Estimates using Factor Analysis and Multivariate Regression, 220

Risk-Based Decisionmaking in Water Resources X, 1636
Using the Analytic Hierarchy Process for Selecting an

Appropriate Fate and Transport Model for Risk-Based Decision-Making at Hazardous Waste Sites, 1476

Valuing Flexibility in Infrastructure Expansion, 850 Wrapper Methods for Inductive Learning: Example Application to Bridge Decks, 132

Decision support systems

Asset Management Framework for Geotechnical Infrastructure, 852

Criteria-Based Decision Support System for Selecting Highway Alignments, 1287

Decision Support System for Adaptive Water Supply Management, 1396

Dynamic Optimal Unit Commitment and Loading in Hydropower Systems, 1415

Integrated Flood Risk Management in England and Wales, 1533

Regional Water Management Modeling for Decision Support in Irrigated Agriculture, 905

Regression Model for Daily Maximum Stream Temperature, 523

Decks

Behavior of Roof Deck Diaphragms under Quasistatic Cyclic Loading, 1248

Durability Gap Analysis for Fiber-Reinforced Polymer Composites in Civil Infrastructure, 182

Inelastic Seismic Response of Side Lap Fasteners for Steel Roof Deck Diaphragms, 1246

Statistical Modeling of Overtopping for Extreme Waves on Fixed Deck, 1445

Decommissioning

Decommissioning Cost Functions in the Gulf of Mexico, 1460

Decomposition

- Exact Buckling Solutions for Rectangular Plates under Intermediate and End Uniaxial Loads, 375
- Improved Decomposition Solution to Green and Ampt Equation, 815
- Modeling Groundwater Flow under Transient Nonlinear Free Surface, 812
- Modeling Temperature Effects on Decomposition, 576

Deep foundations

Curvature and Bending Moments from Inclinometer Data, 18

Deep water

- Deepwater Mooring Systems: Concepts, Design, Analysis, and Materials, 1612
- Liquid Volume Fluxes in Stratified Multiphase Plumes, 786

Defects

- Drilled Shaft Defects: Detection, and Effects on Capacity in Varved Clay, 689
- Stress Measurement and Defect Detection in Steel Strands by Guided Stress Waves, 987

Deflection

- Behavior of Concrete Beams Strengthened with Fiber-Reinforced Polymer Laminates under Impact Loading, 180
- Behavior of Pile Groups Subject to Excavation-Induced Soil Movement, 583
- Deflection of Metal Plate Connected Wood Trusses with Nontriangulated Openings, 1238
- Deflection Requirements for Bridges Constructed with Advanced Composite Materials, 79
- Elastoplastic Large Deflection Analisis of Three-Dimensional Steel Frames, 1207
- Filament-Wound Glass Fiber Reinforced Polymer Bridge Deck Modules, 185
- Finite-Element Modeling of Heat-Curved I-Girders, 88 Long-Term Deflection and Cracking Behavior of Concrete Beams Prestressed with Carbon Fiber-Reinforced Polymer Tendons, 177
- Noncontract Photogrammetric Measurement of Vertical Bridge Deflection, 95
- Nonlinear Buckling Simulations of Imperfect Chell Domes by Mixed Finite Elements, 361
- Nonlinear Finite-Element Analysis for Highway Bridge Superstructures, 90
- Preliminary Analysis of High-Rise Braced Frames with Facade Riggers, 1146
- Preliminary Analysis of Suspension Bridges, 1
- Shear Connection Nonlinearity and Deflections of Steel-Concrete Composite Beams: A Simplified Method, 1085
- Theoretical Elastic-Plastic Solution for Laterally Loaded Piles, 624
- Theoretical Study on Short-Term and Long-Term Deflections of Fiber Reinforced Polymer Prestressed Concrete Beams, 187

Deformation

- Analysis of Arch Dams using Coupled Trial Load and Block Element Methods, 672
- Characterization of Strength and Deformation of Jointed Rock Mass Based on Statistical Analysis, 16

- Computational Analysis of Quality Reduction during Drying of Lumber due to Irrecoverable Deformation. I: Orthotropic Viscoelastic-Mechanosorptive-Plustic Material Model for the Transverse Plane of Wood, 391
- Computational Analysis of Quality Reduction during Drying of Lumber due to Irrecoverable Deformation. II: Algorithmic Aspects and Practical Application, 392
- Deformation Patterns of Reinforced Foundation Sand at Failure, 621
- Disturbed State Model for Porous Saturated Materials, 24
- Effects of Mineral Admixture on Properties of Young Concrete, 1013
- Enlarged Base (Belled) Piles for Use in Ice or Ice-Rich Permafrost, 121
- Flexural Behavior and Deformability of Fiber Reinforced Polymer Prestressed Concrete Beams, 186
- Geometric Analysis of Geodetic Data for Investigation of 3D Landslide Deformations, 1527
- Global Congruency Test Methods for GPS Networks, 1270
- Large-Deflection Deformation of Ferromagnetic Plates in Magnetic Fields, 311
- Rockfill Modulus and Settlement of Concrete Face Rockfill Dams, 665
- Steel-Concrete Composite Beams Considering Shear Slip Effects, 1132
- Time-Dependent Deformation of Pultruded Fiber-Reinforced Polymer Composite Columns, 195 Volumetric Deformation of Natural Clays, 35

Deformation analysis

- Dynamic Model for Monitoring Landslides with Emphasis on Underground Water in Trabzon Province, Northeastern Turkey, 1274
- Modified Shear Spring Formulation for Discontinuous Deformation Analysis of Particulate Media, 374
- Monitoring Crustal Movements in West Anatolia by Precision Leveling, 1262

Degradation

- Aging Approach to Water Effect on Alkali-Silica Reaction Degradation of Structures, 289
- Armor Stone Abrasion due to Displacements in Sea Storms, 1453
- Coupled Mechanical and Chemical Damage in Calcium Leached Cementitious Structures, 321
- Degradation of Drinking Water Treatment Plant Infrastructure from Enhanced Coagulation, 856
- Degradation of Stiffness of Cemented Calcareous Soil in Cyclic Triaxial Tests, 637
- Numerical Modeling of Coupled Hygromechanical Degradation of Cementitious Materials, 327
- Postcyclic Degradation of Strength and Stiffness for Low Plasticity Silt, 649
- Potential Thermal Degradation of Attic Framing and Wood Sheathing, 1514

Degrees of freedom

Earthquake Response of Elastic Single-Degree-of-Freedom Systems with Nonlinear Viscoelastic Dampers, 348

Delay tim

No-Damages-for-Delay Clause: Evaluating Contract Delay Risk, 1083

Delivery

- Educational Needs Assessment for Design/Build Project Delivery, 1069
- Master Builder Project Delivery System and Designer Construction Knowledge, 269
- Project Delivery Systems and Project Change: Quantitative Analysis, 240
- Using Benchmarks and Metrics to Evaluate Project Delivery of Environmental Restoration Programs, 211

Demolition

Controlled Concrete Demolition using Expansive Cracking Agents, 209

Dendrochronology

Bivariate Drought Recurrence Analysis using Tree Ring Reconstructions, 827

Denitrification

- Four-Substrate Design Model for Single Sludge Predenitrification System, 488
- Influence of COD:N:P Ratio on Nitrogen and Phosphorus Removal in Fixed-Bed Filter, 476
- Nitrogen Removal using Combined Ultracompact Biofilm Reactor-Packed Bed System, 448
- Oxidation-Reduction Potential as a Monitoring Tool in a Low Dissolved Oxygen Wastewater Treatment Process, 449

Densification

Pressure-Level Dependency and Densification Behavior of Sand through Generalized Plasticity Model, 377

Density

- Dielectric Properties of Asphalt Pavement, 1012
- Effectiveness of Impresssed Current Technique to Simulate Corrosion of Steel Reinforcement in Concrete, 964
- Settling Characteristics of Calcareous Sand, 745
- Simulation of Two-Dimensional Aggregate Distribution with Wall Effect, 1022
- Validation of Vibration-Based Onboard Asphalt Density Measuring System, 197

Density currents

Three-Dimensional Modeling of Negatively Buoyant Flow in Diverging Channels, 789

Density functions

Empirical-Mechanistic Method-Based Stochastic Modeling of Fatigue Damage to Predict Flexible Pavement Cracking for Transportation Infrastructure Management, 1296

Density stratification

Comparison of Laboratory and Theoretical Internal Solitary Wave Kinematics, 1451

Deposition

- Deposition Properties of Fine Sediment, 716
- Effect of Floodwater Extraction on Mountain Stream Morphology, 784

Denth

Quasi-Theoretical End-Depth-Discharge Relationship for Rectangular Channels, 874

Decerte

Tapping the Desert, 1560

Design

- Advances in Coastal Structure Design, 1604
- Analysis and Design of Evapotranspirative Cover for Hazardous Waste Landfill, 620
- Automated Design of Steel Frames using Advanced Analysis and Object-Oriented Evolutionary Computation, 1147
- Autorun Persistence of Hydrologic Design, 836
- Communication Patterns in Construction at Construction Manager Level, 262
- Design for Stream Restoration, 754
- Design Method of Time-Dependent Local Scour at Circular Bridge Pier, 737
- Design of Retrofitting for Damaged Rectangular Hollow Sectioned Struts, 1182
- Design Review Checking System with Corporate Lessons Learned, 251
- Design-Oriented Analysis of Structures—Unified Approach, 313
- Development of Design Values for Wood-Plastic Composite Materials, 1010
- Early Cover Spalling in High-Strength Concrete Columns, 1116
- Flexural Design of Reinforced Concrete Frames by Genetic Algorithm, 1159
- Inlet Pressure, Energy Cost, and Economic Design of Tapered Irrigation Submains, 870
- Integrated Microelectromechanical Gyroscopes, 45
- Investigation of a Sheffield Structural Tile Floor Failure Indicates a Dangerous Design/Development Oversight, 1512
- Linking Programming and Design with Facilities Management, 1036
- Manual Procedures for Least-Weight Design of King-Post Truss Systems, 1513
- A New Approach to Effective Use of Design Rationale in Practice, 62
- Optimal Time Transfer in Bus Transit Route Network Design using a Genetic Algorithm, 1345
- Plastic Analysis and Design of Steel Plate Shear Walls, 1227
- Process-Parameter-Interface Model for Design Management, 271
- Project Management Actions to Improve Design Phase Cost Performance, 941
- Shear Capacity of Fiber-Reinforced Polymer-Strengthened Reinforced Concrete Beams: Fiber Reinforced Polymer Rupture, 1144

Shell of Steel, 1561

- Substitution of Fly Ash, Slag, and Chemical Admixtures in Concrete Mix Designs, 1033
- Systematic Reliability-Based Environmental Design of Erosion for Efficient Engineered Landscape Profiling, 517
- Transit Route Network Design using Frequency Coded Genetic Algorithm, 1305
- Two-Dimensional Basin Flow with Irregular Bottom Configuration, 901

Design criteria

Knowledge and Reasoning for MEP Coordination, 268

Design standards

Minimum Design Loads for Buildings and Other Structures, 1627

Design wind speed

Design Wind Speed Prediction, 1208

Design/build

Design/Build in Transportation from the Research Perspective, 927

Early Planning and Decisions on the Southeast Corridor Project, 929

Educational Needs Assessment for Design/Build Project Delivery, 1069

Engineering the Procurement Phase to Achieve Best Value, 928

Environmental Impacts to Design/Build Projects—A Case Study of the St. George Island Bridge Replacement, Apalachicola Bay, Florida, 926

Project Delivery Systems and Project Change: Quantitative Analysis, 240

Under Cover, 1592

Desorption

Adsorption–Desorption Rate of Nonpolar Volatile Organic Compounds onto Activated Carbon Exemplified by C₆H₆ and CCl₄, 1477

Investigation of Cadmium Desorption from Different-Sized Sediments, 471

Detention basins

Effects of Stormwater Infiltration on Quality of Groundwater Beneath Retention and Detention Basins, 497

Deterioration

Assessment of Self-Compacting Concrete Immersed in Acidic Solutions, 1003

Computer Assistance in Managing the Maintenance of Low-Slope Roofs, 150

Evaluation of Expected Life-Cycle Maintenance Cost of Deteriorating Structures, 1150

Identification of Environmental Categories for Markovian Deterioration Models of Bridge Decks, 111

Life-Cycle Modeling of Corrosion-Affected Concrete Structures: Propagation, 1158

Life-Cycle Performance of Deteriorating Structures: Assessment, Design and Management, 1623

Modeling Water Pipe Breaks—Three Case Studies, 1391 Multiple Limit States and Expected Failure Costs for Deteriorating Reinforced Concrete Bridges, 116

Rating and Reliability of Existing Bridges in a Network, 114

Developing countries

Construction of a Bridge in a Developing Country: A Bangladesh Case Study, 934

Hot Spot Management Benefits: Robustness Analysis for a Congested Developing City, 1307

Dewatering

Computational Analysis of Quality Reduction during Drying of Lumber due to Irrecoverable Deformation. 1: Orthotropic Viscoelastic-Mechanosorptive-Plastic Material Model for the Transverse Plane of Wood, 39.1

Computational Analysis of Quality Reduction during Drying of Lumber due to Irrecoverable Deformation. II: Algorithmic Aspects and Practical Application, 392

Evaporation Theory for Deformable Soils, 677

Diagnosis

Hydraulic Performance Index of a Sewer Network, 747 Research into a Management System for Diagnosis,

Maintenance, and Repair of Concrete Structures, 260

Diaphragm wall

Pile Response Adjacent to Braced Excavation, 616 Use of Jet Grouting to Limit Diaphragm Wall Displacement of a Deep Excavation, 592

Diaphragms

Dynamics of a Class of Horizontal Setback Buildings, 401

Load Distribution Factors in Simply Supported Skew Bridges, 99

Differential equations

Concentrations of Pressure between an Elastically Supported Beam and a Moving Timoshenko-Beam, 399

Unsteady Stream Depletion when Pumping from Semiconfined Aquifer, 800

Differential settlement

Passively Cooled Railway Embankments for Use in Permafrost Areas, 123

Diffusion

Application of FTIR-ATR to Characterization of Bitumen Rejuvenator Diffusion, 979

Chloride Penetration in Nonsaturated Concrete, 982 Decontamination of Radionuclides from Concrete by

Microwave Heating. I: Theory, 368
Decontamination of Radionuclides from Concrete by

Microwave Heating. II: Computations. 369

Nonlinear Convection-Diffusion Equation with Mixing-Cell Method for Channel Flood Routing, 828

Periodic Diffusional Mass Transfer near Sediment/ Water Interface: Theory, 495

Rate Parameters for Methyl tert-Butyl Ether Biodegradation via a Radial Diffusion Model, 510

Reducing Numerical Diffusion Effects with Pycnocline Filter, 714

Diffusion coefficient

Characterization of Cement-Based Materials using Diffuse Ultrasound, 440

Relating Batch and Column Diffusion Coefficients for Leachable Contaminants in Particulate Waste Materials, 552

Diffusivity

Aquifer Response to Linearly Varying Stream Stage, 839

Estimation of Aquifer Diffusivity from Stream Stage Variation, 801

Explicit Estimation of Aquifer Diffusivity from Linear Stream Stage, 742

Digital techniques

Accuracy of Digital Image Correlation for Measuring Deformations in Transparent Media, 135

Behavior of Reinforced Concrete Beams with Loss of Bond at Longitudinal Reinforcement, 1219

Digital Elevation Model Based Volume Calculations using Topographical Data, 1264

Effect of Gridding Method on Digital Terrain Model Profile Data Based on Scattered Data, 133

Evaluation of Color Changes in Sewage Sludge Ash Brick by using Image Analysis Method, 1485

Digital techniques

- Generation of Digital Orthophotos from IKONOS Satellite Images, 1266
- Improved Process for Floodplain Delineation from Digital Terrain Models, 1419
- Study on Accuracy of 1-Degree DEM Versus Topographic Complexity Using GIS Zonal Analysis, 1268

Dikes

Analysis of Water Waves Passing over a Submerged Rectangular Dike, 350

Dilatancy

Laboratory Study of Loose Saturated and Unsaturated Decomposed Granitic Soil, 631

Dilatometers

Use of an Instrumented Flat Dilatometer in Soft Varved Clay, 692

Dimensional analysis

Dimensional Analysis of Reinforced Concrete Beams Subjected to Pure Torsion, 1239

Disaster relief

- Disaster Management Plan for the State of Maharashtra, India: Evolutionary Process, 1542
- Hurricane Mitigation Status and Factors Influencing Mitigation Status among Florida's Single-Family Homeowners, 1536
- Prayer in Disaster: Case Study of Christian Clergy, 1520

Disasters

- Advancing Mitigation Technologies and Disaster Response for Lifeline Systems, 1605
- Assessing Community Impacts of Natural Disasters, 1539
- Beyond Semantics and the Immediate Postdisaster Period: Community Quality of Life as an Overarching Theme for Sustaining Collective Action, 1537
- Evaluating Disaster Mitigations: Methodology for Urban Infrastructure Systems, 1540
- The Impact of Volcanic Eruptions during the 1990s, 1538
- Natural Disaster Management in Iran during the 1990s—Need for a New Structure, 1375

Discharge coefficients

Flow through Side Sluice Gate, 909

Discrete elements

- Creep Modeling in Excavation Analysis of a High Rock Slope, 658
- Modified Shear Spring Formulation for Discontinuous Deformation Analysis of Particulate Media, 374
- Smooth Convex Three-Dimensional Particle for the Discrete-Element Method, 341
- Three-Dimensional Discrete Element Method of Analysis of Clays, 347

Disinfectants

Water Quality Parameter Estimation in Steady-State Distribution System, 1392

Disinfection

- Modeling Immune Building Systems for Bioterrorism
 Defense 64
- Removal of Antibiotics from Surface and Distilled Water in Conventional Water Treatment Processes, 8
- Secondary Benefits of Aquifer Storage and Recovery: Disinfection By-Product Control, 490

2003 ASCE TRANSACTIONS

Standardized Collimated Beam Testing Protocol for Water/Wastewater Ultraviolet Disinfection, 535

Dispersion

- Analysis and Prediction of Transverse Mixing Coefficients in Natural Channels, 706
- Dispersion Coefficient of Streams from Tracer Experiment Data, 506
- Overland Water Flow and Solute Transport: Model Development and Field-Data Analysis, 867
- Projected Sulfate Redistribution as Impacted by Lake Level Stabilization Scenarios: Devils Lake, North Dakota, 1416
- Treatment of Stagnant Zones in Riverine Advection-Dispersion, 743

Displacement

- Active Multiple Tuned Mass Dampers: A New Control Strategy, 1178
- Armor Stone Abrasion due to Displacements in Sea Storms, 1453
- Global Congruency Test Methods for GPS Networks, 1270
- Inclined Plane Studies of the Newmark Sliding Block Procedure, 643
- Optimal Layout of Displacement Measurements for Parameter Identification Process in Geomechanics,
- Simulation for Ground Movements due to Pipe Bursting, 855
- Spline Semidiscretization Analysis for Orthotropic Plates and Shells, 290
- Statistics of Single-Degree-of-Freedom Estimate of Displacement for Pushover Analysis of Buildings, 1178
- Use of an Instrumented Flat Dilatometer in Soft Varved Clay, 692
- Use of Jet Grouting to Limit Diaphragm Wall Displacement of a Deep Excavation, 592
- Vibration of Plates with Constrained V-Notches or Cracks, 372

Dispute resolution

- Alternative Dispute Resolution in U.S. Public Works: Proposed Model, 1065
- Conflicts between Owner and Contractors: Proposed Intervention Process, 953
- Cultural Considerations in International Conscruction Contracts, 239
- Effectiveness of Dispute Review Boards, 273
- Here Comes the Judge—Duties and Responsibilities of Design Proffessionals When Deciding Disputes, 1076
- Interplay of Science and Stakeholder Values in Neuse River Total Maximum Daily Load Process, 1403
- Lessons Learned from Rigid Conflict Resolution in an Organization: Construction Conflict Case Study, 948
- Resolution of Construction Disputes: A Review of Current Methodologies, 936
- Ten Commandments of Better Contracting: A Practical Guide to Adding Value to an Enterprise Through More Effective SMART Contracting, 1643

Dissipation

Rate-Dependent Hyperplasticity with Internal Func-

Dissolved organic carbon

Development of Optimal Poly-Alumino-Iron Sulphate Coagulant, 526

Dissolved oxygen

A CE-QUAL-W2 Model of Neuse Estuary for Total Maximum Daily Load Development, 1405

Dissolved Oxygen-State Titration Respirometry: Principle of Operation and Validation, 515 Periodic Diffusional Mass Transfer near Sediment/

Water Interface: Theory, 495

Wind and Stream Flow Induced Reaeration, 574

Distance measurement

Least-Squares Formula for Zero Error (/iZ/d0) of Electromagnetic Distance Measuring Instruments, 1277

Transportation Distance Measurement Data Quality, 134

Distortion

Accuracy of Time History Analysis of Impulses, 1120 Measurement and Analysis of Distortion-Induced Fatigue in Multigirder Steel Bridges, 80

Distribution

Entropy-Based Parameter Estimation for Kappa Distribution, 808

Influence of Diffuser Jet Characteristics on Indoor Air Distribution under Actual Connecting Conditions, 70

Simulation of Two-Dimensional Aggregate Distribution with Wall Effect, 1022

Distribution functions

Load Distribution Factors in Simply Supported Skew Bridges, 99

Non-Gaussian Simulation: Cumulative Distribution Function Map-Based Spectral Correction, 433

Disturbances

H. Energy Estimate of Boundary Controlled Vibrating Hybrid Structure Subject to Uncertain Forces, 50

Ecology Ditch: A Best Mangement Practice for Storm Water Runoff Mitigation, 811

Effect of Floodwater Extraction on Mountain Stream Morphology, 784

Documentation

Sustainability in Public Facilities: Analysis of Guidance Documents, 1037

Domes, structural

Effects of Stiffeners on Nonlinear Stability of Self-Erecting Dome, 1089

Grand Finale 1588

Nonlinear Analysis as a Diagnostic Tool for the Strengthening of an Old Wooden Dome, 1223

Numerical Solution of Fully Developed Flow with Vegetative Resistance, 343

Sphere Drag and Settling Velocity Revisited, 469

Drag coefficient

Hydrodynamic Loading on River Bridges, 781

Rolling and Lifting Probabilities for Sediment Entrainment, 704

Settling Characteristics of Calcareous Sand, 745

Drainage

Clogging Evaluation of Permeable Bases, 1320

Drainage of Sloping Lands with Variable Recharge Model Validation and Applications, 890

Effects of the Erosion and Transport of Fine Particles due to Seepage Flow, 22

Interactive Effects of Controlled Drainage and Riparian Buffers on Shallow Groundwater Quality, 868

Urban Storm Sewer Design: Approach in Consideration of Sediments, 723

Water Table Profiles and discharges for an Inclined Ditch-Drained Aquifer under Temporally Variable Recharge, 869

World Water & Environmental Resources Congress 2003 and Related Symposia, 1648

Automated Sewer and Drainage Flushing Systems in Cambridge, Massachusetts, 719

Waste Immobilization Technologies, 1467

Drawdown

Storage Coefficient and Transmissivity from Residual Drawdowns, 759

Dredge spoil

Dredging '02: Key Technologies for Global Prosperity.

Dredging

Compressibility and Permeability Correlations for Fine-Grained Dredged Materials, 1448

Dredging '02: Key Technologies for Global Prosperity,

Experimental and Numerical Investigation of Cutter Head Dredging Flows, 1450

Modeling Dredging Project Cost Variations, 1459

Portable Meter System for Dry Weight Control in Dredging Hoppers, 1436

Drift Capacity of Rectangular Reinforced Concrete Columns with Low Lateral Confinement and High-Axial Load, 1156

Drift Limits of High-Strength Concrete Columns Subjected to Load Reversals, 1115

Drilled shafts

Case History Evaluation of Laterally Loaded Piles, 596 Drilled Shaft Defects: Detection, and Effects on Capacity in Varved Clay, 689

Lateral Load Capacity of Drilled Shafts in Jointed Rock, 646

Drilling

Enlarged Base (Belled) Piles for Use in Ice or Ice-Rich Permafrost, 121

Evaluation of High-Density Polyethylene Pipe Installed using Horizontal Directional Drilling, 203

Real-Time Monitoring for Quality Delivery of Directional Drilling Installations, 844

Software for Planning and Cost Control in Directional Drilling Projects, 248

Driven piles

Shaft Resistance of Single Vertical and Batter Piles Drive in Sand, 635

Application of System Dynamics in Car-Following Models, 1358

- Comparing Driver Information Systems in a Dynamic Modeling Framework, 1288
- Effect of Vertical Alignment on Driver Perception of Horizontal Curves, 1331
- Estimating Rear-End Accident Probabilities at Signalized Intersections: Occurrence-Mechanism Approach, 1328
- Impacts of Red Light Camera on Violation Characteristics, 1361

Droughts

- Bivariate Drought Recurrence Analysis using Tree Ring Reconstructions, 827
- Impact of Spring 2000 Drought Forecasts on Midwestern Water Management, 1381
- Nonlinear Model for Drought Forecasting Based on a Conjunction of Wavelet Transforms and Neural Networks, 835
- Nonparametric Approach for Estimating Return Periods of Droughts in Arid Regions, 826

Ductility

- Comparative Study of Models on Confinement of Concrete Cylinders with Fiber-Reinforced Polymer Composites, 181
- Cross-Sectional Compactness and Bracing Requirements for HPS483W Girders, 1240
- Effects of Material Toughness and Plate Thickness on Brittle Fracture of Steel Members, 1230
- Effects of Seismically Induced Pounding at Expansion Joints of Concrete Bridges, 414
- Improving Seismic Design Efficiency of Petrochemical Facilities, 1505
- Improving the Strength and Ductility of Rectangular Reinforced Concrete Columns through Composite Partial Interaction: Tests, 1199
- Inelastic Behavior and Ductility Capacity of Reinforced Concrete Bridge Piers under Earthquake. I: Theory and Formulation, 1201
- Inelastic Behavior and Ductility Capacity of Reinforced Concrete Bridge Piers under Earthquake. II: Numerical Validation, 1202
- Overstrength and Ductility Factors for Steel Frames Designed According to BS 5950, 1183
- Performance of Axially Loaded Short Rectangular Columns Strengthened with Carbon Fiber-Reinforced Polymer Wrapping, 179
- Retrofit of Reinforced Concrete Columns using Partially Stiffened Steel Jackets, 1155
- Semiactive Structural-Control Based on Variable Slip-Force Level Dampers, 1174
- Steel Semirigid Column-Tree Moment Resisting Frame Seismic Behavior, 1205
- Structural Ductility in Hybrid High Performance Steel Beams, 1241
- Structural Reliability/Redundancy under Earthquakes, 1090
- Summary of a Large- and Small-Scale Unreinforced Masonry Infill Test Program, 1249

Ducts

Economizer Application in Dual-Duct Air-Handling Units, 68

Dunes

- Closed-Conduit Bed-Form Initiation and Development,
- Vulnerability Indicators for Coastal Dunes, 1458

Durability

- Aging Approach to Water Effect on Alkali-Silica Reaction Degradation of Structures, 289
- Condition Assessment of a Deteriorated Cement Works, 1055
- Durability Gap Analysis for Fiber-Reinforced Polymer Composites in Civil Infrastructure, 182
- Durability of Boston Blue Clay in Waste Containment Applications, 977
- Durability of Glass Polymer Composites Subject to Stress Corrosion, 169
- Effectiveness of Impresssed Current Technique to Simulate Corrosion of Steel Reinforcement in Concrete, 964
- Fiber-Sizing-Based Enhancement of Materials Durability for Seismic Retrofit, 178
- Research into a Management System for Diagnosis, Maintenance, and Repair of Concrete Structures, 260

Duct

Stabilization of Electrical Arc Furnace Dust with Low-Grade MgO Prior to Landfill, 475

- Dyes
 Adsorption of Negatively Charged Azo Dyes onto Surfactant-Modified Sepiolite, 527
- Anaerobic Treatment of Synthetic Textile Wastewater Containing a Reactive Azo Dye, 514
- Effects of Humic Materials on Photodegradation of Chlorinated Aromatic Dye in Surfactant Solution, 501
- Investigation of Fluorescent Dyes as Partitioning Tracers for Subsurface Nonaqueous Phase Liquid (NAPL) Characterization, 531
- Turbulence Measurements of Dye Concentration and Effects of Secondary Flow on Distribution in Open Channel Flows, 732

Dynamic analysis

- Dynamic Stiffness Modulus for Pavement Subgrade Evaluation, 1335
- Modal Perturbation Method and its Applications in Structural Systems, 385
- Subset Simulation and its Application to Seismic Risk Based on Dynamic Analysis, 382

Dynamic characteristics

Dynamic Characteristics of Infinite and Finite Railways to Moving Loads, 390

Dynamic loads

- Behavior of Open- and Closed-Ended Piles Driven into Sands, 607
- Effects of Finish Materials and Dynamic Loading on the Cyclic Response of Woodframe Shearwalls, 1221
- Exact Solution for Dynamic Response of Multi-Degree-of-Freedom Bilinear Hysteretic Systems, 425
- Model Validation for Bridge-Road-Vehicle Dynamic Interaction System, 83
- Natural Frequency of Railway Girder Bridges under Vehicle Loads, 93
- Response of Continuous System with Stochastically Varying Surface Roughness to Moving Load, 366

Dynamic models

Analytical Model to Determine the Influence of Horizontal Alignment of Two-Axle Heavy Vehicles on Upgrades, 1353

- Comparing Driver Information Systems in a Dynamic Modeling Framework, 1288
- Dynamic Model for Monitoring Landslides with Emphasis on Underground Water in Trabzon Province, Northeastern Turkey, 1274
- Dynamic Modeling of Pressure Reducing Valves, 775 Suitability of Dynamic Modeling for Flood Forecasting during Ice Jam Release Surge Events, 118

Dynamic programming

- Optimal Design of Multidiameter, Multioutlet Pipelines, 1401
- Optimized Scheduling of Linear Projects, 272

Dynamic properties

Nonlinear Dynamic Properties of a Fibrous Organic Soil, 667

Dynamic response

- Concentrations of Pressure between an Elastically Supported Beam and a Moving Timoshenko-Beam, 399
- Dynamic Response of Suspension Bridge to High Wind and Running Train, 76
- Exact Solution for Dynamic Response of Multi-Degree-of-Freedom Bilinear Hysteretic Systems, 425
- Low Strain Integrity Testing of Piles: Three-Dimensional Effects, 681

Dynamic stability

- Dynamic Instability of Simple Structural Systems, 1255
- Dynamic Stability of Laminated Composite Curved Panels with Cutouts, 416
- Evaluation of Damage and P-Δ Effects for Systems under Earthquake Excitation, 1184

Dynamic structural analysis

Effects of Seismically Induced Pounding at Expansion Joints of Concrete Bridges, 414

Dynamic tests

- Advances in Ritz Vector Identification, 1194
- Analytical Modeling, System Identification, and Tracking Performance of Uniaxial Seismic Simulators, 441
- Assessment of Highway Bridge Upgrading by Dynamic Testing and Finite-Element Model Updating, 89
- Effects of False Floors on Vibration Serviceability of Building Floors. I: Modal Properties, 1044
- Effects of False Floors on Vibration Serviceability of Building Floors. II: Response to Pedestrian Excitation. 1045
- Nondestructive Evaluation of Tuned-Mass-Damper-Type Vibration Absorbers using Vibration Signatures, 1028
- Nonlinear Error Propagation Analysis for Explicit Pseudodynamic Algorithm, 376

Dynamics

- Dynamic Behavior of Orthotropic Rectangular Plates under Moving Loads, 292
- Dynamics of Cable Structures, 303
- Linear Stochastic Dynamical System under Uncertain Load: Inverse Reliability Analysis, 356
- Uncertain Dynamical Systems in the Medium-Frequency Range, 393

Earth pressure

Temperature Correction and Strut Loads in Central Artery Excavations, 626

Earth reinforcement

- Behavior of Calculated Nail Head Strength in Soil-Nailed Structures, 655
- Simplified Trial Wedge Method for Soil Nailed Wall Analysis, 589

Earthmovin

Object-Oriented Simulation Model for Earthmoving Operations, 217

Earthquake damage

- Assessment of Performance of Seismic Isolation System of Bolu Viaduct, 91
- Atico, Peru Mw 8.4 Earthquake of June 23, 2001, 1608
- Damage Spectra: Characteristics and Applications to Seismic Risk Reduction, 1214
- Evaluation of Damage and P-Δ Effects for Systems under Earthquake Excitation, 1184
- Lifeline Performance of El Salvador Earthquakes of January 13 and February 13, 2001, 1624
- Liquefaction Centrifuge Modeling of Sands of Different Permeability, 684
- Repair of New Long-Span Bridges Damaged by the 1995 Kobe Earthquake, 1056
- Shaken 1555

Earthquake engineering

- Advancing Mitigation Technologies and Disaster Response for Lifeline Systems, 1605
- Experimental Study on Steel Shear Wall with Slits,
- External Prestressing Concrete Columns for Improved Seismic Shear Resistance, 1186
- Fault Tolerance of Semiactive Seismic Isolation, 1173 Neural Networks for Decentralized Control of Cable-

Earthquakes

Stayed Bridge, 97

- Analytical Modeling, System Identification, and Tracking Performance of Uniaxial Seismic Simulators, 441
- Applications of Some Semiactive Control Systems to Benchmark Cable-Stayed Bridge, 1169
- Assessing Community Impacts of Natural Disasters, 1539
- Atico, Peru Mw 8.4 Earthquake of June 23, 2001, 1608 Considerations of Multimode Structural Response for Near-Field Earthquakes, 334
- Consistent Finite-Element Response Sensitivity Analysis, 430
- Development and Application of Wood Shear Wall Reliability Model, 1124
- Disaster Management Plan for the State of Maharashtra, India: Evolutionary Process, 1542
- Drift Limits of High-Strength Concrete Columns Subjected to Load Reversals, 1115
- Dynamics of a Class of Horizontal Setback Buildings, 401
- Earthquake Response of Elastic Single-Degree-of-Freedom Systems with Nonlinear Viscoelastic
- Effect of Reduced Beam Section Frame Elements on Stiffness of Moment Frames, 1122
- Effects of Material Toughness and Plate Thickness on Brittle Fracture of Steel Members, 1230
- Evaluating Disaster Mitigations: Methodology for Urban Infrastructure Systems, 1540

Evaluation of Seismic Performance for Tunnel Retrofit Project, 633

Fuzzy Multicriteria Model for Postearthquake Land-Use Planning, 1524

Hilbert-Huang Transform Analysis of Dynamic and Earthquake Motion Recordings, 378

Inclined Plane Studies of the Newmark Sliding Block Procedure, 643

Inelastic Behavior and Ductility Capacity of Reinforced Concrete Bridge Piers under Earthquake. I: Theory and Formulation, 1201

Inelastic Behavior and Ductility Capacity of Reinforced Concrete Bridge Piers under Earthquake. II: Numerical Validation, 1202

Lateral Loaded Pile Response in Liquefiable Soil, 618 Liquefaction Potential Index: Field Assessment, 609

Moment Equation Analysis of Base-Isolated Buildings Subjected to Support Motion, 294

Novel Semiactive Friction Controller for Linear Structures against Earthquakes, 1175

Pile response to Lateral Spreads: Centrifuge Modeling, 661

Potential for Structural Failure in the Seismic Near Field, 384

Pseudo-Dynamic Testing of Unreinforced Masonry Building with Flexible Diaphragm, 1153

Retrofit Priority of Transport Network Links under an Earthquake, 1378

Seismic Damage and Collapse Assessment of Composite Moment Frames, 7

Seismic Design of Structures by Bundled Columns, 438

Simplified Cone Penetration Test-Based Method for Evaluating Liquefaction Resistance of Soils, 584 Single Piles in Lateral Spreads: Field Bending

Moment Evaluation, 662

Structural Reliability/Redundancy under Earthquakes, 1090

Study on Damping Reduction Factor for Buildings under Earthquake Ground Motions, 1106

Switching Oil Damper with Built-in Controller for Structural Control, 1170 Tests to Structural Collapse of Single Degree of Freedom Frames Subjected to Earthquake Excitations,

1250 Earthwork

By-Products in Earth Construction: Environmental Assessments, 548

Construction Robot Path-Planning for Earthwork Operations, 136

Estimating Earthwork Volumes of Curved Roadways: Simulation Model, 1258

Method for Balancing Cut-Fill and Minimizing the Amount of Earthwork in the Geometric Design of Highways, 1351

Novel Method of Excavation, 223

Ecology

River Ecology and Flood Hazard Mitigation, 1523

Economic analysis

Integrated Hydrologic-Agronomic-Economic Model for River Basin Management, 1380

Economic factors

Economic-Engineering Optimization for California Water Management, 1395 Saving the Bay, 1545

Valuing Flexibility in Infrastructure Expansion, 850

Economic impact

Economic Model to Optimize Underground Utility Protection, 270

Retrofit Priority of Transport Network Links under an Earthquake, 1378

Ecosystems

Modeling Approach to Periphyton and Nutrient Interaction in a Stream, 541

Eddy viscosity

Turbulence Measurements of Dye Concentration and Effects of Secondary Flow on Distribution in Open Channel Flows, 732

Effective width

Models for Concentrated Load Performance Assessment of Isotropic Wood Floor Sheathing, 1188

Effluents

Lagoon Effluent Treatment using Grass Filtration, 563 Lead Removal from Acidic Solutions by Sorption on Cocoa Shells: Effect of Some Parameters, 525

Occurrence and Degradation of Estrogenic Nonylphenol and its Precursors in Northeast Kansas Wastewater Treatment Plants, 1484

Production of Soluble Microbial Products (SMP) in Anaerobic Chemostats under Nutrient Deficiency, 561

Egypt

Constructing on the Inconstructible, 1559

Footbridge: Project to Implement Management Functions at AASTMT, 1062

Eigenvalues

Buckling of Vertical Cylindrical Shells under Combined End Pressure and Body Force, 379

Curve Veering of Eigenvalue Loci of Bridges with Aeroelastic Effects, 300

Form Finding of Sparse Structures with Continuum Topology Optimization, 1253

Modal Perturbation Method and its Applications in Structural Systems, 385

El Salvador

Lifeline Performance of El Salvador Earthquakes of January 13 and February 13, 2001, 1624

Elastic foundations

Biparametric Models for Elastic Wedge Foundation, 293

Concentrations of Pressure between an Elastically Supported Beam and a Moving Timoshenko-Beam, 399

Postbuckling Analysis of Plates Resting on a Tensionless Elastic Foundation, 332

Thermal Postbuckling of Uniform Columns on Elastic Foundation—Intuitive Solution, 426

Elastic properties

LRFD Orthotropic Plate Model for Live Load Moment in Filled Grid Decks, 73

Nonstandard Tensile Coupon for Fiber-Reinforced Plastics, 973

Elastic restraints

Buckling of Columns with Intermediate Elastic Restraint, 310

Elasticity

- Elasticity of Space-Time: Basis of Newton's 2nd Law of Motion, 395
- Laboratory Evaluation of Fiber-Optic Sensors for Strain Monitoring, 1006
- Large-Deflection Deformation of Ferromagnetic Plates in Magnetic Fields, 311
- Lateral Buckling Strengths of Steel Angle Section Beams, 1161
- Physical Properties of Glass Fiber-Reinforced Polymer Rebars in Compression, 196
- Stress Solution of Multiple Elliptic Hole Problem in Plane Elasticity, 431

Elastomer

Tension Buckling in Multiplayer Elastomeric Bearings, 428

Elastoplasticity

- Biaxial Failure Model for Fiber Reinforced Concrete, 1034
- Constitutive Model for Static Liquefaction, 25
- Elastoplastic Large Deflection Analisis of Three-DImensional Steel Frames, 1207
- Nonlinear Elastoplastic Analysis of Semirigid Steel Frames at Elevated Temperature: MP Approach, 1148

Electric power loss

Reliability of Applied Semiactive Structural Control System, 1172

Electric transmission

Electric Power Distribution System Performance in Carolina Hurricanes, 1522

Electric transmission lines

- Development of a Reliability-Based Design Framework for Transmission Line Structure Foundations, 653
- Multiple Resistance Factor Design for Shallow Transmission Line Structure Foundations, 654

Electric transmission structures

Aesthetic Appraisal of Antenna Towers, 65

Electrical conductivity

- Detecting Landfill Leachate Contamination using Soil Electrical Properties, 1461
- Soil Water Retention and Conductivity when Vapor Flow is Important, 881

Electrical resistivity

Resistance Changes during Compression of Carbon Flber Cement Composites, 1018

Electrical systems, structural

- Analysis of Occupational Injuries and Fatalities in Electrical Contracting Industry, 214
- Indicator Variables Model of Firm's Size-Profitability Relationship of Electrical Contractors using Financial and Economic Data, 219
- Knowledge and Reasoning for MEP Coordination, 268

Electrokinetics

- Effect of Soil Type on Electrokinetic Removal of Phenanthrene using Surfactants and Cosolvents, 482
- Iodide-Enhanced Electrokinetic Remediation of Mercury-Contaminated Soils, 575
- Removal of Trichloroethylene from Clay Soil by Series-Electrokinetic Process, 1464

Sequentially Enhanced Electrokinetic Remediation of Heavy Metals in Low Buffering Clayey Soils, 604

Electronic equipment

- Capacitive Micromachined Ultrasonic Transducers: Theory and Technology, 46
- Hydrofluoric Acid Recovery from Waste Semiconductor Acid Solution by Ion Exchange, 498
- Integrated Microelectromechanical Gyroscopes, 45

Elevation

Method for Forensic Analysis of Residential Floor-Elevation Data, 1047

Embankments

- Nonlinear Thermal Analysis for Qing-Tibet Railway Embankments in Cold Regions, 126
- Passively Cooled Railway Embankments for Use in Permafrost Areas, 123
- Physical and Chemical Properties of Recycled Tire Shreds for Use in Construction, 551
- Pond Water Source for Irrigation on Steep Slopes, 879
- Yield Strength Ratio and Liquefaction Analysis of Slopes and Embankments, 647

Embedded foundations

Dynamic Soil Stiffnesses at Side of Embedded Structures with Rectangular Base, 388

Emergency services

- Assessing Community Impacts of Natural Disasters, 1539
- Comprehensive Assessment of Hurricane Shelters: Lessons from Hurricane Georges, 1541
- Radar-Based Flood Warning System Applied to Tropical Storm Allison, 834

Emission control

Influence of Different Cleaning Conditions on Cleaning Performance of Pilot-Scale Pulse-Jet Baghouse, 538

Emissions

- Impact of Stops on Vehicle Fuel Consumption, 1286
- Modeling Storm Water Mass Emissions to the Southern California Bight, 479
- Probabilistic Nonroad Mobile Source Emission Factors, 461

Employee benefits

Fostering Innovation and Entrepreneurialism in a Value-Driven Organization, 933

Employee relations

Managing Employee Life Cycles to Improve Labor Retention, 913

Employee

Forecasting Construction Staffing for Transportation Agencies, 952

Employment

- Empirical Analysis of Relationship between Accessibility and Economic Development, 1373
- Employment History Survey of ASCE's Younger Members, 916
- Whistle-Blowing Engineer, 1082
- Workforce Demographics among Project Engineering Professionals—Crisis Ahead?, 959

Emulsions

Hydration Mechanisms, Microstructure, and Mechanical Properties of Mortars Prepared with Mixed Binder Cement Slurry-Asphalt Emulsion, 966

Energy conservation

Energy conservation

Economizer Application in Dual-Duct Air-Handling Units, 68

Strategies of Extended Producer Responsibility for Buildings, 847

Energy consumption

Cost-Benefit Analysis of Residential Energy-Efficiency Upgrades in Phoenix, Arizona, 58

Variable-Frequency Drive Applications in Nonmakeup-Air Exhaust Systems, 69

Water Delivery System Planning Considering Irrigation Simultaneity, 886

Energy dissipation

"Bizxiality Effect" on the Energy Dissipated by Elastoplastic Base-Isolators, 349

Cyclic Load Tests and Analysis of Bolted Top-and-Seat Angle Connections, 1244

Energy Balance Model for Breaking Solitary Wave Runup, 1433

Energy-Dissipating Polymer Matrix Composite-Infill Wall System for Seismic Retrofitting, 1126

Hydraulic Design of Stepped Spillways, 762

Inelastic Seismic Response of Frame Fasteners for Steel Roof Deck Diaphragms, 1247

Inelastic Seismic Response of Side Lap Fasteners for Steel Roof Deck Diaphragms, 1246 Object-Oriented Modeling of Structural Analysis and

Object-Oriented Modeling of Structural Analysis and Design with Application to Damping Device Configuration, 138

State Space Formulation for Linear Viscoelastic Dynamic Systems with Memory, 362

Study on Damping Reduction Factor for Buildings under Earthquake Ground Motions, 1106

under Earthquake Ground Motions, 1106 Switching Oil Damper with Built-in Controller for Structural Control, 1170

Energy losses

Direct Equations for Hydraulic Jump Elements in Rectangular Horizontal Channel, 891

Energy methods

Buckling of Vertical Cylindrical Shells under Combined End Pressure and Body Force, 379

Energy transfer

Control of Wind-Induced Self-Excited Oscillations by Transfer of Internal Energy to Higher Modes of Vibration. I: Analysis in Two Degrees of Freedom, 330

Control of Wind-Induced Self-Excited Oscillations by Transfer of Internal Energy to Higher Modes of Vibration. II: Application to Taut Cables, 340

Engineering

America Transformed: Engineering and Technology in the Nineteenth Century, 1606

Perspectives in Civil Engineering: Commemorating the 150th Anniversary of the American Society of Civil Engineers, 1630

Prediction of Remaining Service Life of Bridge Decks using Machine Learning, 127

Engineering education

Bridge Construction in Guatemala: Linking Social Issues and Engineering, 1071

Building Research Skills: Course-Integrated Training Methods, 1061

Course in Professional Practice Issues, 1063

2003 ASCE TRANSACTIONS

Educational Needs Assessment for Design/Build Project Delivery, 1069

Footbridge: Project to Implement Management Functions at AASTMT, 1062

Framework for Undergraduate Engineering Management Studies, 1067

Guidelines for Forensic Engineering Practice, 1620

Implementing an Inclusive Curriculum for Women in Engineering Education, 1077 Implementing Sustainable Development through Prob-

lem-Based Learning: Pedagogy and Practice, 1079

The Mission of the Civil Engineer in the Movement of Globalization, 925 Omission of Critical Reynolds Number for Open Chan-

nel Flows in Many Textbooks, 1064

Plug and Chug, Cram and Flush, 1060

Sharpening the Focus: Legal Context of Engineering Ethics, 1070

Some Ethical Dimensions of Additional Education for the 21st Century, 1080

Teachable Moments and the Tyranny of the Syllabus: September 11 Case, 1068

Undergraduate Research Mentoring Model in Construction Engineering and Management, 205

World Survey of Civil Engineering Programs on Fiber Reinforced Polymer Composites for Construction,

Engineering firms

The Benefits of Virtual Building Tools, 1582

Differentiation, Conformity, and Construction Firm Performance, 944

System Dynamics Approach to Exploring Performance Enhancement in a Construction Organization, 257

Engineering profession

Depending on Character: ASCE Shapes its First Code of Ethics, 1059

Leadership and Communications in Civil Engineering: Past, Present, and Future, 930

Role of the Engineer in Rural Municipalities, 949

Sharpening the Focus: Legal Context of Engineering Ethics, 1070

Some Ethical Dimensions of Additional Education for the 21st Century, 1080

Engineering services

Impact of Information Technology on Facility Engineering, 924

Improving the Effectiveness of the Engineering and Planning Functions of a Major Utility, 914

Engineering societies

Sharpening the Focus: Legal Context of Engineering Ethics, 1070

Engineers

ASCE History and Heritage Programs, 1058

Audacious and Elegant 19th Century Porto Bridges, 1516

Henry P. G. Darcy and Other Pioneers in Hydraulics, 1621

Workforce Demographics among Project Engineering Professionals—Crisis Ahead?, 959

Entrainment

Fluvial Entrainment of Protruding Fractured Rock, 783 Liquid Volume Fluxes in Stratified Multiphase Plumes, 786 Rolling and Lifting Probabilities for Sediment Entrainment, 704

Entropy

Entropy-Based Parameter Estimation for Kappa Distribution, 808

Uncertainty of Weekly Nitrate-Nitrogen Forecasts using Artificial Neural Networks, 474

Envelope

Modeling of Moisture Behavior of Wood Planks in Nonvented Flat Roofs, 60

Environment

Identification of Environmental Categories for Markovian Deterioration Models of Bridge Decks, 111

Environmental engineering

Combining Service Learning with Graduate Education, 1078

Lean Management of Environmental Consulting, 940

Environmental impacts

Environmental Impact Analysis using Fuzzy Relation for Landfill Siting, 1374

Environmental Impacts to Design/Build Projects—A Case Study of the St. George Island Bridge Replacement, Apalachicola Bay, Florida, 926

Quantitative Assessment of Environmental Impacts on Life Cycle of Highways, 200

Sinkholes and the Engineering and Environmental Impacts of Karst, 1639

Environmental issues

By-Products in Earth Construction: Environmental Assessments, 548

Dredging '02: Key Technologies for Global Prosperity, 1613

ISO 14000 and the Construction Industry: Survey in China, 951

Life-Cycle Environmental Effects of an Office Building, 857

Quality, Environmental, and Health and Safety Management Systems for Construction Engineering, 261 Saving the Bay, 1545

Sustainability Indices of Thermal Electrical Power Production in Greece, 463

A Visit to the Yangtze River and the Three Gorges Dam: Reflections from a People to People Ambassador Program in China, 915

Environmental planning

Assessing Extrajurisdictional and Areawide Impacts of Clustered Brownfield Developments, 1369

Enzymes

Retention and Distribution of 1-Naphthol and Naphthol Polymerization Products on Surface Soils, 565

Equations of motion

Elasticity of Space-Time: Basis of Newton's 2nd Law of Motion, 395

Nonlinear Hydrologic Processes: Conservation Equations for Determining Their Means and Probability Distributions, 804

Physical Properties of Plywood and Waferboard as Pile Cushion Materials, 615

Possio Integral Equation of Aeroelasticity Theory, 53

State Space Formulation for Linear Viscoelastic Dynamic Systems with Memory, 362

Equations of state

State Space Formulation for Linear Viscoelastic Dynamic Systems with Memory, 362

Equilibrium methods

Nonequilibrium Nonaqueous Phase Liquid Mass Transfer Model for Soil Vapor Extraction Systems. 532

Erosion

Effect of Floodwater Extraction on Mountain Stream Morphology, 784

Effects of the Erosion and Transport of Fine Particles due to Seepage Flow, 22

Erosion Hazards Index for Lateritic Soils, 1528

Erosion of Sand by Circular Impinging Water Jets with Small Tailwater, 715

European Research into Sewer Sediments and Associated Pollutants and Processes, 720

Fluvial Entrainment of Protruding Fractured Rock, 783

Hydraulics of Submerged Jet Subject to Change in Cohesive Bed Geometry, 696

Measurements of Sediment Erosion and Transport with the Adjustable Shear Stress Erosion and Transport Flume, 782

Modeling In-Sewer Deposit Erosion to Predict Sewer Flow Quality, 726

Modeling the Erosion of Mixtures of Organic and Granular In-Sewer Sediments, 725

Phenomenological Characterization of Vortex Induced Scour, 793

Physical and Zeta Potential Characteristics of Erodible Lateritic Soils, 1530

Self-Cleansing Sewer Design Based on Sediment Transport Principles, 721

Straight Benthic Flow-Through Flume for In Situ Measurement of Cohesive Sediment Dynamics, 698

Systematic Reliability-Based Environmental Design of Erosion for Efficient Engineered Landscape Profiling, 517

Time for Development of Internal Erosion and Piping in Embankment Dams, 608

Validation of Existing Bed Load Transport Formulas using In-Sewer Sediment, 727

Erosion control

A Culvert for Abram Creek, 1597

Watershed Management, 1647

Errors

Comparing Different Global Positioning System Data Processing Techniques for Modeling Residual Systematic Errors, 1276

Effects of Errors in Coordinates on Transformation Parameters, 1269

Idempotence and Orthogonality in Relation to Mixed Model Adjustments, 1278

Least-Squares Formula for Zero Error (/iZ/d0) of Electromagnetic Distance Measuring Instruments, 1277

Nonlinear Error Propagation Analysis for Explicit Pseudodynamic Algorithm, 376

Seasonal Prediction with Error Estimation of Columbia River Streamflow in British Columbia, 1394

Esthetic

Aesthetic Appraisal of Antenna Towers, 65

Conceptual Design for the Sunniberg Bridge, 84

Estimation

- Effect of Lateral Water Surface Profile on Side Weir Discharge, 899
- Effect of Temporal Physical Correlation on Accuracy Estimation in GPS Relative Positioning, 1259
- Entropy-Based Parameter Estimation for Kappa Distribution, 808
- Estimating Basin Evapotranspiration using Distributed Hydrologic Model, 807
- Estimating Earthwork Volumes of Curved Roadways: Simulation Model, 1258
- Estimating Future Highway Construction Costs, 229
- Estimating Instantaneous Peak Flow from Mean Daily Flow Data, 840
- Nonparametric Approach for Estimating Return Periods of Droughts in Arid Regions, 826
- Study of Applying Macroevolutionary Genetic Programming to Concrete Strength Estimation, 156
- Variance Component Estimation and Precise GPS Positioning: Case Study, 1257

Estuaries

- A CE-QUAL-W2 Model of Neuse Estuary for Total Maximum Daily Load Development, 1405
- Comparison of Estuarine Water Quality Models for Total Maximum Daily Load Development in Neuse River Estuary, 1407
- Development of Three-Dimensional Hydrodynamic and Water Quality Models to Support Total Maximum Daily Load Decision Process for the Neuse River Estuary, North Carolina, 1406
- Eutrophication and Pathogen Abatement in the San Juan Bay Estuary, 480
- Field Experiment Study of Transient Stratified Flow in an Estuary, 413
- Integrated Approach to Total Maximum Daily Load Development for Neuse River Estuary using Bayesian Probability Network Model (Neu-BERN), 1404
- Longshore Sediment Transport Rates on a Microtidal Estuarine Beach, 1427
- Parameters Affecting the Performance of Wetting and Drying in a Two-Dimensional Finite Element Long Wave Hydrodynamic Model, 758
- Wind and Stream Flow Induced Reaeration, 574

Ethics

- Bridge Construction in Guatemala: Linking Social Issues and Engineering, 1071
- Sharpening the Focus: Legal Context of Engineering
- Some Ethical Dimensions of Additional Education for the 21st Century, 1080
- Teachable Moments and the Tyranny of the Syllabus: September 11 Case, 1068
- Whistle-Blowing Engineer, 1082

Europe

- European Research into Sewer Sediments and Associated Pollutants and Processes, 720
- Experimental Investigation on European Welded Connections, 1211
- Modeling the Erosion of Mixtures of Organic and Granular In-Sewer Sediments, 725
- Urban Beaches: Balancing Public Rights and Private Development, 1646

Eutrophication

- Eutrophication and Pathogen Abatement in the San Juan Bay Estuary, 480
- Integrated Approach to Total Maximum Daily Load Development for Neuse River Estuary using Bayesian Probability Network Model (Neu-BERN), 1404

Evaluation

- Comparative Evaluation of Analytical and Intuitive Decision-Making, 943
- Designer Centered Development of GA-Based DSS for Conceptual Design of Buildings, 143
- Full-Scale Field Evaluation of Microelectromechanical System-Based Biaxial Strain Transducer and Its Application in Fatigue Analysis, 48
- Numerical Evaluation of Uniform Beam Modes, 439
- Seismic Evaluation of Existing Buildings, 1637
- Using Benchmarks and Metrics to Evaluate Project Delivery of Environmental Restoration Programs, 211

Evaporation

- Evaporation Theory for Deformable Soils, 677
- Measurement of Evaporation on Bare Soil and Estimating Surface Resistance, 577

Evapotranspiration

- Analysis and Design of Evapotranspirative Cover for Hazardous Waste Landfill, 620
- Comparison of Reference Evapotranspiration Calculations as Part of the ASCE Standardization Effort, 906
- Daily Grass and Alfalfa-Reference Evapotranspiration Estimates and Alfalfa-to-Grass Evapotranspiration Ratios in Florida¹, 898
- Effect of Lateral Water Surface Profile on Side Weir Discharge, 899
- Estimating Actual Evapotranspiration from Limited Climatic Data using Neural Computing Technique, 883
- Estimating Basin Evapotranspiration using Distributed Hydrologic Model, 807
- Forecasting of Reference Evapotranspiration of Artificial Neural Networks, 908
- History and Evaluation of Hargreaves Evapotranspiration Equation, 865
- Predicting Daily Net Radiation using Minimum Climatological Data, 887
- Solar and Net Radiation-Based Equations to Estimate Reference Evapotranspiration in Humid Climates, 896

Evolutionary computation

Optimal Fund-Allocation Analysis for Multidistrict Highway Agencies, 858

Examination

Principles and Practice of Engineering: Architectural Engineering Sample Questions and Solutions, 1631

Excavation

- Behavior of Pile Groups Subject to Excavation-Induced Soil Movement, 583
- Creep Modeling in Excavation Analysis of a High Rock Slope, 658
- Curvature and Bending Moments from Inclinometer Data, 18
- Novel Method of Excavation, 223

Optimal Layout of Displacement Measurements for Parameter Identification Process in Geomechanics.

Pile Response Adjacent to Braced Excavation, 616 Temperature Correction and Strut Loads in Central

Artery Excavations, 626 Use of Jet Grouting to Limit Diaphragm Wall Displacement of a Deep Excavation, 592

Effects of False Floors on Vibration Serviceability of Building Floors. II: Response to Pedestrian Excitation, 1045

Identification of Simplified Models Using Adaptive Control Techniques, 1180

Refined Solutions of Externally Induced Sloshing in Half-Full Spherical Containers, 429

Sliding Mode Control of Cable-Stayed Bridge Subjected to Seismic Excitation, 291

Joining Forces, 1585

Proposed Design Method for Thermal Bridge Movements, 72

Expansion joints

Effects of Seismically Induced Pounding at Expansion Joints of Concrete Bridges, 414

Fatigue Performance of Modular Bridge Expansion Joints, 1053

Thermal Movements in Concrete: Case Study of Multistory Underground Car Park, 1026

Expansive soils

Measured and Estimated Suction Indices for Swelling Potential Classification, 642

Experimental data

Full-Scale Testing of Procedures for Assembling Trunnion-Hub-Girder in Bascule Bridges, 94

Experimentation

Adaptive Wood Composite: Experiment, 1152

Experimental Investigation of Cold-Formed Stainless Steel Columns, 1102

Experimental Investigation on European Welded Connections, 1211

Experimental Studies on the Properties of Constructional Steel at Elevated Temperatures, 1254

Experimental Study of a Horizontal Jet in a Wavy Environment, 406

Experimental Study of Bed Load Transport through

Emergent Vegetation, 744 Experiments on a Full-Scale Building Model using

Modified Sliding Mode Control, 325 Numerical and Experimental Study on Two-Dimensional Flood Flows with and without Structures. 777

Shaft Resistance of Single Vertical and Batter Piles Drive in Sand, 635

Stability of Stiffened Plates with Initial Imperfections, 365

Study of Methods to Control Frost Action in Cold Regions Tunnels, 124

Testing Block Probes for Wall Shear Stress Measurement in Water Flows, 703

Decision Tree Assessment of Challenging Technologies for Mission to Europa, 51

Extraction procedures

Estimation of Operation Time for Soil Vapor Extraction Systems, 545

Numerical Simulation of Dual-Phase Vacuum Extraction to Remove Nonaqueous Phase Liquids in Subsurface, 1473

Fabrication

Capacitive Micromachined Ultrasonic Transducers: Theory and Technology, 46

Experimental and Numerical Prediction of Collapse of Flatbar Stiffeners in Aluminum Panels, 1101

Integrated Microelectromechanical Gyroscopes, 45

Fabrics

Modeling Compression Behavior of Structured Geomaterials, 31

Quantitative Description of the Pull-Out Behavior of Crimped Yarns from Cement Matrix, 1025

Adding Value to Constructed Facilities: Facilities Management Hospitality Case Study, 1039

Framework Model for Asset Maintenance Management, 1042

Improving Seismic Design Efficiency of Petrochemical Facilities, 1505

Integrated Resources Management Structure for Facilities Provision and Management. 1040

Linking Programming and Design with Facilities Management, 1036

Sustainability in Public Facilities: Analysis of Guidance Documents, 1037

XML for Capital Facilities, 920

Facility expansion

A Culvert for Abram Creek, 1597

Preparing for Takeoff, 1570

The Smaller the Better, 1589

Valuing Flexibility in Infrastructure Expansion, 850

Failure investigations

Fatigue Performance of Modular Bridge Expansion Joints, 1053

Forensic Engineering, 1615

Forensic Evaluation of Premature Failures of Texas Specific Pavement Study-1 Sections, 1043

Investigation of a Sheffield Structural Tile Floor Failure Indicates a Dangerous Design/Development Oversight, 1512

Failure modes

Biaxial Failure Model for Fiber Reinforced Concrete, 1034

Experimental Investigation on European Welded Connections, 1211

Numerical Study of the Effect of Preloading on Undrained Bearing Capacity, 12

Short Term Testing of Hybrid T Beam Made of New Prepreg Material, 172

System Reliability Assessment by Method of Moments, 1215

Ultimate Strength of Ribbed Slab Composite Beams with Web Openings, 1164

Case Study of the Failure of a Cross Vault: Church of Holyrood Abbey, 66

- Confinement-Shear Lattice Model for Concrete Damage in Tension and Compression: II: Computation and Validation, 436
- Creep of Polymer Matrix Composites. II: Monkman-Grant Failure Relationship for Transverse Isotropy, 319
- Effects of Cross Anisotropy on Three-Dimensional Behavior of Sand. 1: Stress-Strain Behavior and Shear Banding, 301
- Effects of Cross Anisotropy on Three-Dimensional Behavior of Sand. II: Volume Change Behavior and Failure, 302
- Failure Behavior and Separation Criterion for Strengthened Concrete Members with Steel Plates, 1200
- Failure Process of Granite, 20
- Fracture Model for Flexural Failure of Beams Retrofitted with CARDIFRC, 394
- Interactive Failure of Two Impacting Beams, 383 Numerical Simulation on Damage and Failure of Brit-
- tle Rocks under Different Confining Pressures, 37 Probability of Failure Occurrence and Recurrence in Rock Slopes Stability Analysis, 15
- Retrofit of Reinforced Concrete Columns using Partially Stiffened Steel Jackets, 1155
- Shear Compression Failure in Reinforced Concreted Deep Beams, 1137
- Strength of Concrete Subjected to Pullout Load, 1020 Study of Recent Building Failures in the United States,
- Translational Failure Analysis of Landfills, 627

Falling bodies

- Application of Construction and Building Debris as Base and Subbase Materials in Rigid Pavement. 1350
- Evaluation of FWD Data for Determination of Layer Moduli of Pavements, 962
- Falling Weight Deflectometer for Estimating Subgrade Elastic Moduli, 1295

Falsework

Bridge Falsework Productivity—Measurement and Influences, 226

Fans

Variable-Frequency Drive Applications in Nonmakeup-Air Exhaust Systems, 69

Farm

Optimal Sizing of On-Farm Reservoirs for Supplemental Irrigation, 872

Fasteners

- Behavior of Roof Deck Diaphragms under Quasistatic Cyclic Loading, 1248
- Inelastic Seismic Response of Frame Fasteners for Steel Roof Deck Diaphragms, 1247
- Inelastic Seismic Response of Side Lap Fasteners for Steel Roof Deck Diaphragms, 1246

Fatigue

- Analytical Prediction of Fatigue Crack Propagation in Metals, 357
- Application of Fiber-Reinforced Polymer Overlays to Extend Steel Fatigue Life, 192
- Behavior of Shear Studs Subjected to Fully Reversed Cyclic Loading, 1229
- Damping in Cantilevered Traffic Signal Structures under Forced Vibration, 1121

- Determining Appropriate Fatigue Inspection Intervals for Steel Bridge Members, 78
- Effect of Waveform and Loading Sequence on Low-Cycle Compressive Fatigue Life of Spruce, 971
- Experimental Investigation of Bonded Fiber Reinforced Polymer-Concrete Joints under Cyclic Loading, 171
- Fatigue and Healing Characterization of Asphalt Mixtures, 969
- Fatigue Performance of Modular Bridge Expansion Joints, 1053
- Fatigue Response of New Graphite/Epoxy-Concrete Girder, 162
- Fatigue Strength of Steel Girders Strengthened with Carbon Fiber-Reinforced Polymer Patch, 1104
- Finite-Element Analysis of Steel Bridge Distortion-Induced Fatigue, 101
- Interaction between Static Fatigue and Zero-Stress Aging in E-glass Fiber Composites, 157
- Lap Splice Steel Connections with Stainless Steel Nails, 1206
- Measurement and Analysis of Distortion-Induced Fatigue in Multigirder Steel Bridges, 80

Fatigue life

- Cyclic Load Tests and Analysis of Bolted Top-and-Seat Angle Connections, 1244
- Degradation of Stiffness of Cemented Calcareous Soil in Cyclic Triaxial Tests, 637
- Full-Scale Field Evaluation of Microelectromechanical System-Based Biaxial Strain Transducer and Its Application in Fatigue Analysis, 48

Fatigue tests

- Fatigue Behavior of a Pavement Foundation with Recycled Aggregate and Waste HDPE Strips, 638
- Full-Scale Fatigue Tests of Steel Orthotropic Decks for the Williamsburg Bridge, 108
- Optimal S-N Testing for Variable-Amplitude Fatigue Applications, 1166
- Static and Fatigue Behavior of Reinforced Concrete Beams Strengthened with Steel Plates for Flexure, 1135

Feedback control

Analytical Modeling, System Identification, and Tracking Performance of Uniaxial Seismic Simulators, 441

Ferrates

Reduction of Fulvic Acid in Drinking Water by Ferrate,

Fertilization

Overland Water Flow and Solute Transport: Model Development and Field-Data Analysis, 867

Fertilizers

Performance Indices for Surface N Fertigation, 878

Fiber composites

Preliminary Thermography Studies for Quality Control of Concrete Structures Strengthened with Fiber-Reinforced Polymer Composites, 992

Fiber ontics

- Analysis of Fiber Optic Traffic Sensors in Flexible Pavements, 1349
- Fiber Optic Sensors for Bridge Monitoring, 112
- Internal Strain Measurements in Concrete Elements by Fiber Optic Sensors, 975

Fiber reinforced materials

- Behavior of Plate Load Tests on Soil Layers Improved with Cement and Fiber, 587
- Biaxial Failure Model for Fiber Reinforced Concrete, 1034
- Design and Construction of a Bridge in Very High Performance Fiber-Reinforced Concrete, 104
- Effect of Strength and Fiber Reinforcement on Fire Resistance of High-Strength Concrete Columns,
- Engineering Properties of Fiber Reinforced Cold Asphalt Mixes, 555
- Fiber-Sizing-Based Enhancement of Materials Durability for Seismic Retrofit, 178
- Interaction between Static Fatigue and Zero-Stress Aging in E-glass Fiber Composites, 157
- Plate Load Test on Fiber-Reinforced Soil, 669
- Shear Strengthening of Interior Slab–Column Connections using Carbon Fiber-Reinforced Polymer Sheets, 173
- Strengthening of Steel-Concrete Composite Girders using Carbon Fiber Reinforced Polymers Sheets, 1087
- Toward Load and Resistance Factor Design for Fiber-Reinforced Polymer Composite Structures, 1127
- Triaxial Compression of Sand Reinforced with Fibers,

Fiber reinforced plastics

- Financial Viability of Fiber-Reinforced Polymer (FRP) Bridges, 938
- Local Buckling of Composite Fiber-Reinforced Plastic Wide-Flange Sections, 1097
- Local Buckling of Fiber-Reinforced Plastic Composite Structural Members with Open and Closed Cross Sections, 1233
- Nonstandard Tensile Coupon for Fiber-Reinforced Plastics, 973
- Shear Analysis of Concrete with Brittle Reinforcement, 191
- Shear Capacity of Fiber-Reinforced Polymer-Strengthened Reinforced Concrete Beams: Fiber Reinforced Polymer Rupture, 1144
- Short Term Testing of Hybrid T Beam Made of New Prepreg Material, 172

Fiber reinforced polymers

- Analytical Models for Concrete Confined with FRP Tubes, 160
- Application of Fiber-Reinforced Polymer Overlays to Extend Steel Fatigue Life, 192
- Behavior of Concrete Beams Strengthened with Fiber-Reinforced Polymer Laminates under Impact Loading, 180
- Bond Behavior of Corroded Steel Reinforcement in Concrete Wrapped with Carbon Fiber Reinforced Polymer Sheets, 1004
- Bond between Carbon Fiber Reinforced Polymer Bars and Concrete. I: Experimental Study, 174
- Bond between Carbon Fiber Reinforced Polymer Bars and Concrete. 11: Computational Modeling, 175
- CFRP Composite Connector for Concrete Members, 165
- Comparative Study of Models on Confinement of Concrete Cylinders with Fiber-Reinforced Polymer Composites, 181
- Creep Analysis of Axially Loaded Fiber Reinforced Polymer-Confined Concrete Columns, 422

- Durability Gap Analysis for Fiber-Reinforced Polymer Composites in Civil Infrastructure, 182
- Durability of Glass Polymer Composites Subject to Stress Corrosion, 169
- Energy-Dissipating Polymer Matrix Composite-Infill Wall System for Seismic Retrofitting, 1126
- Environmental Effects on the Short-Term Bond of Carbon Fiber-Reinforced Polymer (CFRP) Composites, 163
- Experimental Investigation of Bonded Fiber Reinforced Polymer-Concrete Joints under Cyclic Loading, 171
- Experimental Investigation of FRP-Strengthened RC Beam-Column Joints, 161
- Fatigue Strength of Steel Girders Strengthened with Carbon Fiber-Reinforced Polymer Patch, 1104
- Field Assessment of Unreinforced Masonry Walls Strengthened with Fiber Reinforced Polymer Laminates, 1185
- Filament-Wound Glass Fiber Reinforced Polymer Bridge Deck Modules, 185
- Flexural Behavior and Deformability of Fiber Reinforced Polymer Prestressed Concrete Beams, 186
- Flexural Behavior of R/C Beams Strengthened with Carbon Fiber Reinforced Polymer Sheets or Fabric, 188
- Formulation of L₁ Norm Minimization in Gauss-Markov Models, 1261
- Investigation of Bond in Concrete Structures Strengthened with Near Surface Mounted Carbon Fiber Reinforced Polymer Strips, 183
- Laboratory Evaluation of Fiber-Optic Sensors for Strain Monitoring, 1006
- Long-Term Deflection and Cracking Behavior of Concrete Beams Prestressed with Carbon Fiber-Reinforced Polymer Tendons, 177
- Long-Term Properties and Transfer Length of Fiber-Reinforced Polymers, 158
- Performance Evaluation of Reinforced Concrete Bridge Columns Wrapped with Fiber Reinforced Polymers, 166
- Performance of Axially Loaded Short Rectangular Columns Strengthened with Carbon Fiber-Reinforced Polymer Wrapping, 179
- Physical Properties of Glass Fiber-Reinforced Polymer Rebars in Compression, 196
- Poststrengthening of Concrete Slabs: Full-Scale Testing and Design Recommendations, 1157
- Preliminary Thermography Studies for Quality Control of Concrete Structures Strengthened with Fiber-Reinforced Polymer Composites, 992
- Punching Shear Behavior of Fiber Reinforced Polymers Reinforced Concrete Flat Slabs: Experimental Study. 184
- Punching Shear Strengthening of Reinforced Concrete Flat Plates using Carbon Fiber Reinforced Polymers, 1198
- Recommended Practice for Fiber-Reinforced Polymer Products for Overhead Utility Line Structures, 1634
- Reinforced Concrete T-Beams Strengthened in Shear with Fiber-Reinforced Polymer Sheets, 189
- Reliability of Fiber-Reinforced Polymer-Confined Reinforced Concrete Columns, 1193
- Repair of Cracked Aluminum Overhead Sign Structures with Glass Fiber Reinforced Polymer Composites, 170

Fiber reinforced polymers

Repair of Damaged Steel-Concrete Composite Girders using Carbon Fiber-Reinforced Polymer Sheets, 190

Shear Capacity of Fiber-Reinforced Polymer-Strengthened Reinforced Concrete Beams: Fiber Reinforced Polymer Rupture, 1144

Tension Stiffening and Crack Formation in Reinforced Concrete Members with Fiber-Reinforced Polymer Sheets. 1154

Theoretical Study on Short-Term and Long-Term Deflections of Fiber Reinforced Polymer Prestressed Concrete Beams, 187

Time-Dependent Deformation of Pultruded Fiber-Reinforced Polymer Composite Columns, 195

World Survey of Civil Engineering Programs on Fiber Reinforced Polymer Composites for Construction, 1073

Fiberglass

Durability of Glass Polymer Composites Subject to Stress Corrosion, 169

Fiber

Experimental and Analytical Behavior of Carbon Fiber-Based Rods as Flexural Reinforcement, 164

Processing Effects in Cementitious Composites: Extrusion and Casting, 983

Quantitative Description of the Pull-Out Behavior of Crimped Yarns from Cement Matrix, 1025

Resistance Changes during Compression of Carbon Flber Cement Composites, 1018

Use of Fibers and Welded-Wire Reinforcement in Construction of Slabs on Ground, 1498

Field investigations

Field Experiment Study of Transient Stratified Flow in an Estuary, 413

Guidelines for Forensic Engineering Practice, 1620

Percolation-Induced Heat Transfer in Deep Unsaturated Zones, 679

Field tests

Simplified Trial Wedge Method for Soil Nailed Wall Analysis, 589

Uplift Behavior of Blade-Underreamed Anchors in Sil-

Fills

AUA Guidelines for Backfilling and Contact Grouting of Tunnels and Shafts, 1609

Energy-Dissipating Polymer Matrix Composite-Infill Wall System for Seismic Retrofitting, 1126

Laboratory Study of Loose Saturated and Unsaturated Decomposed Granitic Soil, 631

Maize-cob Ash as Filler in Concrete, 985

Summary of a Large- and Small-Scale Unreinforced Masonry Infill Test Program, 1249

Filters

Arsenic Removal from Groundwater by Iron Impregnated Sand, 453

Biotrickling Filtration for Control of Volatile Organic Compounds from Microelectronics Industry, 516

Field Measurements and Modeling of Two-Stage Biofilter that Treats Odorous Sulfur Air Emissions, 524

Influence of COD:N:P Ratio on Nitrogen and Phosphorus Removal in Fixed-Bed Filter, 476
Installation Stress in Prefabricated Vertical Drains, 659

Measured and Estimated Suction Indices for Swelling Potential Classification, 642

Filtration

Control of Total Chloro-s-Triazines in Conventional Drinking Water Treatment Plants, 1491

Lagoon Effluent Treatment using Grass Filtration, 563

Modeling Formation of Natural Organic Matter Fouling Layers on Ultrafiltration Membranes, 446

Modeling Immune Building Systems for Bioterrorism Defense, 64

Modeling Uncoupled Solute Transport in Natural Organic Matter Size Fractionation by Ultrafiltration, 447

Standardized Membrane Pore Size Characterization by Polyethylene Glycol Rejection, 9

Financial factors

The Mission of the Civil Engineer in the Movement of Globalization, 925

Financial management

Alternate Financing Strategies for Build-Operate-Transfer Projects, 221

Estimation of Minimum Working Capital for Construction Projects in Malaysia, 238

Financial Viability of Fiber-Reinforced Polymer (FRP) Bridges, 938

How to Evaluate and Invest in Emerging A/E/C Technologies under Uncertainty, 199

Optimal Capital Structure Model for BOT Power Projects in Turkey, 208

Fine-grained soils

Compressibility and Permeability Correlations for Fine-Grained Dredged Materials, 1448

Simplified Cone Penetration Test-Based Method for Evaluating Liquefaction Resistance of Soils, 584

Finite difference method

Practical Aspects in Comparing Shock-Capturing Schemes for Dam Break Problems, 711

Site Response at Treasure and Yerba Buena Islands, California, 619

Wave Simulations in Ponce de Leon Inlet using Boussinesq Model, 1441

Finite element method

Aging Approach to Water Effect on Alkali-Silica Reaction Degradation of Structures, 289

Analysis of Fiber Optic Traffic Sensors in Flexible Pavements, 1349

Assessment of Highway Bridge Upgrading by Dynamic Testing and Finite-Element Model Updating, 89

Consistent Finite-Element Response Sensitivity Analysis, 430

Constitutive Behavior of Geosynthetic Interfaces, 10

Cross Tensioned Concrete Pavement, 1334

Cross-Sectional Compactness and Bracing Requirements for HPS483W Girders, 1240 Design for Shear in Curved Composite Multiple Steel

Box Girder Bridges, 87
Design-Oriented Analysis of Structures—Unified

Approach, 313

Dynamic Stability of Laminated Composite Curved Panels with Cutouts, 416

Effect of Reduced Beam Section Frame Elements on Stiffness of Moment Frames, 1122

Effects of False Floors on Vibration Serviceability of Building Floors. I: Modal Properties, 1044 Effects of False Floors on Vibration Serviceability of Building Floors. II: Response to Pedestrian Excitation, 1045

Experimental and Numerical Investigation of Cutter Head Dredging Flows, 1450

Factors Affecting Long-Term Efficiency of Compensation Grouting in Clays, 603

Finite-Element Analysis of Steel Bridge Distortion-Induced Fatigue, 101

Finite-Element Modeling of Heat-Curved I-Girders, 88 Finite-Element Modeling of Skid Resistnce Test, 1321 Inelastic Behavior and Ductility Capacity of Rein-

forced Concrete Bridge Piers under Earthquake. II: Numerical Validation, 1202

Lateral Stiffness of Brick Masonry Infilled Plane Frames, 1187

Low Strain Integrity Testing of Piles: Three-Dimensional Effects, 681

LRFD Orthotropic Plate Model for Live Load Moment in Filled Grid Decks, 73

Microplane Model for Reinforced-Concrete Planar Members in Tension-Compression, 1118

Model for Nonlinear Thermal Effect on Pavement Warping Stresses, 1366

Moment Magnifier Method for Long-Term Behavior of Flat Plates Subjected to In-Plane Compression, 1093 Nonlinear Finite-Element Analysis for Highway Bridge

Superstructures, 90 Nonlinear Response of Fluid-Filled Membrane in

Gravity Waves, 364 Numerical Analysis of Neutron Moisture Probe Meas-

urements, 13 Numerical Model for Wave Refraction-Diffraction near

Pearl River Estuary, China, 1457 Numerical Modeling of Coupled Hygromechanical Degradation of Cementitious Materials, 327

Parallel Processing Techniques in Structural Engineering Applications, 1252

Practical Tool to Accurately Estimate Tensile Stresses in Concrete Bridge Decks to Control Transverse Cracking, 1501

Preliminary Thermography Studies for Quality Control of Concrete Structures Strengthened with Fiber-Reinforced Polymer Composites, 992

Proof and Comments on Extensively used Assumption in PCC Pavement Analysis and Evaluation, 1309

Pullout Behavior of Geogrid by Test and Numerical Analysis, 613

Reliability of Frame and Shear Wall Structural Systems. 1: Static Loading, 1108

Reliability of Frame and Shear Wall Structural Systems. II: Dynamic Loading, 1109

Second-Order Radiation Boundary Condition for Water Wave Simulation with Large Angle Incidence, 434

Shear Connection Nonlinearity and Deflections of Steel-Concrete Composite Beams: A Simplified Method, 1085

Sheet Pile Tensions in Cellular Structures, 600

Short Term Testing of Hybrid T Beam Made of New Prepreg Material, 172

Stability of Stiffened Plates with Initial Imperfections, 365

Structural Damage Detection and Assessment from Modal Response, 299

Structural Ductility in Hybrid High Performance Steel Beams, 1241 Tendon Model for Nonlinear Analysis of Externally Prestressed Concrete Structures, 1094

Thermal-Structural Modeling and Temperature Control of Roller Compacted Concrete Gravity Dam, 1054

Three-Strut Model for Concrete Musonry-Infilled Steel Frames, 1103
Unbonded Posttensioned Concrete Bridge Piers. 1:

Monotonic and Cyclic Analyses, 81

Finite elements

Classification Approach for Reliability Analysis with Stochastic Finite-Element Modeling, 1195

Cracked Membrane Model: Finite Element Implementation, 1196

Exact Finite Element for Nonuniform Torsion of Open Sections, 1107

Finite Element Studies of Asphalt Concrete Pavement Reinforced with Geogrid, 371

Integration within Polygonal Finite Elements, 39

Interpolants within Convex Polygons: Wachspress' Shape Functions, 38

Model Validation for Bridge-Road-Vehicle Dynamic Interaction System, 83

Nonlinear Buckling Simulations of Imperfect Chell Domes by Mixed Finite Elements, 361

Parameters Affecting the Performance of Wetting and Drying in a Two-Dimensional Finite Element Long Wave Hydrodynamic Model, 758

Reliability-Based Assessment of Suspension Bridges: Application to the Innoshima Bridge, 5

Steel-Concrete Composite Plate Girders Subject to Shear Loading, 1204

Strength Curves for Metal Plates in Compression, 1225
Thermal Postbuckling of Uniform Columns on Elastic
Foundation—Intuitive Solution, 426

Three-Dimensional Lower Bound Solutions for Stability of Plate Anchors in Clay, 602

Finite strip method

Calculation of Moments on Top Slab in Single-Cell Box Girders, 1098

Concrete Uniaxial Tensile Strength and Cylinder Splitting Test, 1151

Finland

By-Products in Earth Construction: Environmental Assessments, 548

Fire hazards

Modeling Membrane Action of Concrete Slabs in Composite Buildings in Fire. I: Theoretical Development, 1190

Modeling Membrane Action of Concrete Slabs in Composite Buildings in Fire. II: Validations, 1191

Fire protection

Standard Calculation Methods for Structural Fire Protection, 1641

Fire resistance

Analytical Fire Resistance of Axially Restrained Steel Columns, 1236

Concrete-Filled Hollow Structural Steel Columns after Exposure to ISO-834 Fire Standard, 1091

Effect of Strength and Fiber Reinforcement on Fire Resistance of High-Strength Concrete Columns, 1111

Experimental Study and Calculation of Fire Resistance of Concrete-Filled Hollow Steel Columns, 1119

Fire resistance

Fire Resistance of Four-Face Heated Reinforced Concrete Columns, 1203

Fire Resistance of Walls and Floors using Light-Gauge Steel Shapes, 1235

Nonlinear Elastoplastic Analysis of Semirigid Steel Frames at Elevated Temperature: MP Approach, 1148

Fire resistant materials

Standard Calculation Methods for Structural Fire Protection, 1641

Fire safety

Standard Calculation Methods for Structural Fire Protection, 1641

Fish management

Discharge Rating Equation and Hydraulic Characteristics of Standard Denil Fishways, 728

Nonhydrostatic Three-Dimensional Method for Hydraulic Flow Simulation. II: Validation and Application, 713

Fishways

Discharge Rating Equation and Hydraulic Characteris-

Figures

Contaminant Transport in Fissured Soils by Three-Dimensional Boundary Elements, 19

Flanges

Local Buckling of Composite Fiber-Reinforced Plastic Wide-Flange Sections, 1097

Flash floods

Dam-Breach Flood Wave Propagation using Dimensionless Parameters, 772

Flexibility

Integrated Development of Facilities Design and Services, 1038

Flexible pavements

Analysis of Fiber Optic Traffic Sensors in Flexible Pavements, 1349

Empirical-Mechanistic Method-Based Stochastic Modeling of Fatigue Damage to Predict Flexible Pavement Cracking for Transportation Infrastructure Management, 1296

Long-Term Performance of Stone Interlayer Pavement, 1297

Optimization of Ground-Penetrating Radar Data to Predict Layer Thicknesses in Flexible Pavements, 1294

Flexural strength

Flexural Behavior and Deformability of Fiber Reinforced Polymer Prestressed Concrete Beams, 186

Flexural Design of Reinforced Concrete Frames using a Genetic Algorithm, 1095

Retrofit of Reinforced Concrete Columns using Partially Stiffened Steel Jackets, 1155

Shear Strengthening of Interior Slab—Column Connections using Carbon Fiber-Reinforced Polymer Sheets, 173

Flexure

Fatigue Strength of Steel Girders Strengthened with Carbon Fiber-Reinforced Polymer Patch, 1104

Strengthening of Steel-Concrete Composite Girders using Carbon Fiber Reinforced Polymers Sheets, 1087

2003 ASCE TRANSACTIONS

Floating structures

Deepwater Mooring Systems: Concepts, Design, Analysis, and Materials, 1612

Non-Gaussian Air Gap Response Models for Floating Structures, 317

Flocculation

Deposition Properties of Fine Sediment, 716

Flood control

Improved Process for Floodplain Delineation from Digital Terrain Models, 1419

Methodology for Assessment of Climate Change Impacts on Large-Scale Flood Protection System, 1412

Flood damage

River Ecology and Flood Hazard Mitigation, 1523

Flood forecasting

Flood Forecasts for Urban Basin with Integrated Hydro-Meteorological Model, 799

Radar-Based Flood Warning System Applied to Tropical Storm Allison, 834

Suitability of Dynamic Modeling for Flood Forecasting during Ice Jam Release Surge Events, 118

Flood frequency

Joint Seasonal/Annual Flood Frequency Analysis, 818

Flood hydrology

Estimating Instantaneous Peak Flow from Mean Daily Flow Data, 840

Flood peaks

Bedload Transport in Gravel-Bed Streams with Unimodal Sediment, 785

Flood plains

Atmospheric Momentum Roughness Applied to Stage-Discharge Relationships in Flood Plains, 810 Improved Process for Floodplain Delineation from Digital Terrain Models, 1419

Flood routing

Applicability of Kinematic, Noninertia, and Quasi-Steady Dynamic Wave Models to Unsteady Flow Routing, 757

Design of Circular Urban Storm Sewer Systems using Multilinear Muskingum Flow Routing Method, 778

Nonlinear Convection-Diffusion Equation with Mixing-Cell Method for Channel Flood Routing, 828

Treatment of Natural Geometry in Finite Volume River Flow Computations, 733

Floods

Assessing Community Impacts of Natural Disasters, 1539

Effect of Floodwater Extraction on Mountain Stream Morphology, 784

Evaluation of Numerical Models of Flood and Tide Propagation in Channels, 4

High-Profile Tunneling, 1580

Integrated Flood Risk Management in England and Wales, 1533

Inverse Algorithm for Tsunami Forecasts, 1434

Numerical and Experimental Study on Two-Dimensional Flood Flows with and without Structures, 777

Projected Sulfate Redistribution as Impacted by Lake Level Stabilization Scenarios: Devils Lake, North Dakota, 1416 River Ecology and Flood Hazard Mitigation, 1523

Three-Dimensional Numerical Simulation of Compound Channel Flows, 760

Flood waves

Applicability of Kinematic, Noninertia, and Quasi-Steady Dynamic Wave Models to Unsteady Flow Routing, 757

Dam-Breach Flood Wave Propagation using Dimensionless Parameters, 772

Floors

Dynamic Measurements of In-Place Steel Floors to Assess Vibration Performance, 1049

Effects of False Floors on Vibration Serviceability of Building Floors. I: Modal Properties, 1044

Effects of False Floors on Vibration Serviceability of Building Floors. II: Response to Pedestrian Excitation, 1045

Fire Resistance of Walls and Floors using Light-Gauge Steel Shapes, 1235

Investigation of a Sheffield Structural Tile Floor Failure Indicates a Dangerous Design/Development Oversight, 1512

Method for Forensic Analysis of Residential Floor-Elevation Data, 1047

Florida

Artificial Neural Network Approach for Predicting Transient Water Levels in a Multilayered Groundwater System under Variable State, Pumping, and Climate Conditions, 838

Comprehensive Assessment of Hurricane Shelters: Lessons from Hurricane Georges, 1541

Daily Grass and Alfalfa-Reference Evapotranspiration Estimates and Alfalfa-to-Grass Evapotranspiration Ratios in Florida', 898

Effect of Lateral Water Surface Profile on Side Weir Discharge, 899

Environmental Impacts to Design/Build Projects—A Case Study of the St. George Island Bridge Replacement, Apalachicola Bay, Florida, 926

Estimation of Urban Imperviousness and its Impacts on Storm Water Systems, 1418 Field Experiment Study of Transient Stratified Flow in

an Estuary, 413

Florida DOT Project-Level Bridge Management Models, 110

Hurricane Mitigation Status and Factors Influencing Mitigation Status among Florida's Single-Family Homeowners, 1536

Substitution of Fly Ash, Slag, and Chemical Admixtures in Concrete Mix Designs, 1033

Unleashing the Flow, 1572

Wave Simulations in Ponce de Leon Inlet using Boussinesq Model, 1441

Worthy Successor, 1593

Flow

Investigation of Two- and Three-Dimensional Models of Transitional Flow Past a Square Cylinder, 423

Flow characteristics

Cluster Evolution and Flow-Frictional Characteristics under Different Sediment Availabilities and Specific Gravity, 412

Two-Phase Flow Characteristics of Stepped Spillways, 761

Flow control

General Characteristics of Solutions to the Open-Channel Flow, Feedforward Control Problem, 873

Flow distribution

Turbulence Measurements of Dye Concentration and Effects of Secondary Flow on Distribution in Open Channel Flows, 732

Flow measurement

Calibration of Submerged Radial Gates, 763

Combined Particle Image Velocimetry/Planar Laser Induced Fluorescence for Integral Modeling of Buoyant Jets, 410

Convection Velocity of Vortex Structures in the Near Wake of a Circular Cylinder, 402

Field Experiment Study of Transient Stratified Flow in an Estuary, 413

Field-Data Analysis for Stream Depletion, 824

Laser-Induced Fluorescence Measurements of a Turbulent Plume, 404

Measurements of Water Surface Profile and Velocity Field at a Circular Pier, 338

Particle Image Velocimetry Measurements within a Laboratory-Generated Swash Zone, 403

Quasi-Theoretical End-Depth-Discharge Relationship for Rectangular Channels, 874

Shallow Turbulent Flows by Video Imaging Method, 408

Simultaneous Particle Image Velocimetry and Laser Doppler Velocimetry Measurements of Periodical Oscillatory Horseshoe Vortex System near Square Cylinder-Base Plate Juncture, 409

Flow rates

Freeway Traffic Flow Rate Measurement: Investigation into Impact of Measurement Time Interval, 1310

Flow resistance

Modeling of Flow Resistance in Mangrove Swamp at Mouth of Tidal Keelung River, Taiwan, 1437

Numerical Solution of Fully Developed Flow with Vegetative Resistance, 343

Flow simulation

Investigation on the Suitability of Two-Dimensional Depth-Averaged Models for Bend-Flow Simulation, 756

Numerical and Experimental Study on Two-Dimensional Flood Flows with and without Structures, 777

Flow visualization

Convection Velocity of Vortex Structures in the Near Wake of a Circular Cylinder, 402

Simultaneous Particle Image Velocimetry and Laser Doppler Velocimetry Measurements of Periodical Oscillatory Horseshoe Vortex System near Square Cylinder-Base Plate Juncture, 409

Fluid dynamics

Bed Shear Stress Boundary Condition for Storage Tank Sedimentation, 521

Three-Dimensional CFD Modeling of Self-Forming Meandering Channel, 731

Fluid flow

Jet Interaction in a Still Ambient Fluid, 729

Phenomenological Characterization of Vortex Induced Scour, 793

Fluid flow

Two-Dimensional Micromachined Flow Sensor Array for Fluid Mechanics Studies, 47

Fluid mechanics

Testing Block Probes for Wall Shear Stress Measurement in Water Flows, 703

Two-Dimensional Micromachined Flow Sensor Array for Fluid Mechanics Studies, 47

Fluidized beds

Integrated Modeling of Anaerobic Fluidized Bed Bioreactor for Deicing Waste Treatment. I: Model Derivation, 454

Integrated Modeling of Anaerobic Fluidized Bed Bioreactor for Deicing Waste Treatment. II: Simulation and Experimental Studies, 455

Propylene Glycol Deicer Biodegradation Kinetics: Anaerobic Complete-Mix Stirred Tank Reactors, Filter, and Fluidized Bed. 456

Fluid-structure interaction

Analytical Solution for Fluid-Structure Interaction in Liquid-Filled Pipes Subjected to Impact-Induced Water Hammer, 432

Nonlinear Response of Fluid-Filled Membrane in Gravity Waves, 364

Flumes

Measurements of Sediment Erosion and Transport with the Adjustable Shear Stress Erosion and Transport Flume, 782

Straight Benthic Flow-Through Flume for In Situ Measurement of Cohesive Sediment Dynamics, 698

Fluorides

Numerical Simulation of Rain Scavenging on Large Release of Water-Soluble Gases, 450

Flushing

Automated Sewer and Drainage Flushing Systems in Cambridge, Massachusetts, 719

Sewer-Sediment Control: Overview of an Environmental Protection Agency Wet-Weather Flow Research Program, 718

Flutter

Aeroelastic Analysis of Bridges: Effects of Turbulence and Aerodynamic Nonlinearities, 380

Computation of Three-Dimensional Nonlinear Panel Flutter, 54

Design of Flutter Characteristics of Composite Wing

Design of Flutter Characteristics of Composite Wings Using Frequency Constraint Optimization, 40

Efficacy of Tuned Mass Dampers for Bridge Flutter Control, 1210

Fly ash

Abrasion-Porosity-Strength Model for Fly Ash Concrete, 1009

ASR Potentials of Glass Aggregates in Water-Glass Activated Fly Ash and Portland Cement Mortars, 968

Carbonation of Municipal Solid Waste Incineration Fly Ash and the Impact on Metal Mobility, 493

Evaluation of Illinois Pulverized Coal Combustion Dry Bottom Ash for Use in Geotechnical Engineering Applications, 279

Factors Influencing the Strength of Cement Fly Ash Base Courses, 1348

High-Volume Fly Ash Concrete with High Strength and Low Drying Shrinkage, 978

Mechanical Stabilization of Cemented Soil—Fly Ash Mixtures with Recycled Plastic Strips, 553 Municipal Solid Waste Fly Ash as a Blended Cement Material, 1023

Permeation of High Performance Concrete, 970

Processing Effects in Cementitious Composites: Extrusion and Casting, 983

Properties of Field Manufactured Cast-Concrete Products Utilizing Recycled Materials, 1008

Reuse of Incinerator Fly Ash in Soft Soil Stabilization, 1001

Substitution of Fly Ash, Slag, and Chemical Admixtures in Concrete Mix Designs, 1033

Use of Waste Materials for Control of Acid Mine Drainage and Subsidence, 549

Footings

Closely Spaced Footings on Geogrid-Reinforced Sand, 641

Computation of Bearing Capacity Factor N_y— Terzaghi's Mechanism, 23

Structural Analysis of Combined Footing on Piles, 1494

Force

Identification of Simplified Models Using Adaptive Control Techniques, 1180

Demand Forecasting for Irrigation Water Distribution Systems, 904

Dynamic Travel Time Prediction with Real-Time and Historic Data, 1356

Forecasting of Reference Evapotranspiration of Artificial Neural Networks, 908

Impact of Spring 2000 Drought Forecasts on Midwestern Water Management, 1381

Inverse Algorithm for Tsunami Forecasts, 1434

Nonlinear Model for Drought Forecasting Based on a Conjunction of Wavelet Transforms and Neural Networks, 835

Projecting Building Inventory Changes and the Effect on Hurricane Risk, 1379

Quantitative Model to Forecast Changes in Hurricane Vulnerability of Regional Building Inventory, 846

State-Space Discretization of the Kalinin-Milyukov-Nash-Cascade in a Sample-Data System Framework for Streamflow Forecasting, 837

Uncertainty of Weekly Nitrate-Nitrogen Forecasts using Artificial Neural Networks, 474

Weighted-Climate Parametric Hydrologist Forecasting, 817

Foreign projects

Impacts of Obstacles in East Asian Cross-Border Construction, 212

Internationalization of Chinese Construction Enterprises, 264

Forensic engineering

Case History of Damage to a School Building Caused by Differentially Heaving Bedrock, 1046

Forensic Engineering, 1615

Forensic Evaluation of Premature Failures of Texas Specific Pavement Study-1 Sections, 1043

Guidelines for Forensic Engineering Practice, 1620

Method for Forensic Analysis of Residential Floor-Elevation Data, 1047

Fouling

Modeling Formation of Natural Organic Matter Fouling Layers on Ultrafiltration Membranes, 446

Foundation design

Assessment of Current Load Factors for Use in Geotechnical Load and Resistance Factor Design, 606

Foundation settlement

Evaluation of Cone Penetration Test-Based Settlement Prediction Methods for Shallow Foundations on Cohesionless Soils at Highway Bridge Construction Sites, 664

Foundations

Closely Spaced Footings on Geogrid-Reinforced Sand, 641

Constructing on the Inconstructible, 1559

Deformation Patterns of Reinforced Foundation Sand at Failure, 621

Development of a Reliability-Based Design Framework for Transmission Line Structure Foundations, 653

Dynamic Characteristics of Infinite and Finite Railways to Moving Loads, 390

Estimating Soil Liquefaction in Ice-Induced Vibration of Bucket Foundation, 120

Fatigue Behavior of a Pavement Foundation with Recycled Aggregate and Waste HDPE Strips, 638

Investigations of Blocks in Foundations and Abutments of Concrete Dams, 588

Liquefaction Centrifuge Modeling of Sands of Different Permeability, 684

Multiple Resistance Factor Design for Shallow Transmission Line Structure Foundations, 654

Fourier analysis

Hilbert-Huang Transform Analysis of Dynamic and Earthquake Motion Recordings, 378

Fourier series

Estimation of Aquifer Diffusivity from Stream Stage Variation, 801

Fourier transform

Damage Detection in Concrete by Fourier and Wavelet Analyses, 345

Fractals

Floc Characteristics and Removal of Turbidity and Humic Acid from High-Turbidity Storm Water, 511

Fracture mechanics

Asymptotic Matching Analysis of Scaling of Structural Failure Due to Softening Hinges. I: Theory, 353

Asymptotic Matching Analysis of Scaling of Structural Failure Due to Softening Hinges. II: Implications, 354

Fractures

Confinement-Shear Lattice Model for Concrete Damage in Tension and Compression: I. Theory, 435

Confinement-Shear Lattice Model for Concrete Damage in Tension and Compression: II: Computation and Validation, 436

Factors Affecting Long-Term Efficiency of Compensation Grouting in Clays. 603

Fatigue and Healing Characterization of Asphalt Mixtures, 969

Fracture Model for Flexural Failure of Beams Retrofitted with CARDIFRC, 394 Location of Prestressing Steel Fractures in Concrete,

Seismic Response of Concentrically Braced Steel Frames Made with Rectangular Hollow Bracing Members, 1245

Shear Capacity of Fiber-Reinforced Polymer-Strengthened Reinforced Concrete Beams: Fiber Reinforced Polymer Rupture, 1144

Ultrasonic Guided Waves for Inspection of Grouted Tendons and Bolts, 986

Framed structures

Load-Sharing and Redistribution in a One-Story Woodframe Building, 1209

Frame

Asymptotic Matching Analysis of Scaling of Structural Failure Due to Softening Hinges. I: Theory, 353

Asymptotic Matching Analysis of Scaling of Structural Failure Due to Softening Hinges. II: Implications, 354

Effect of Reduced Beam Section Frame Elements on Stiffness of Moment Frames, 1122

Elastic Stability and Second-Order Analysis of Three-Dimensional Frames: Effects of Column Orientation, 417

Flexural Design of Reinforced Concrete Frames using a Genetic Algorithm, 1095

Inelastic Seismic Response of Frame Fasteners for Steel Roof Deck Diaphragms, 1247

Lateral Stiffness of Brick Masonry Infilled Plane Frames, 1187

Nonlinear Elastoplastic Analysis of Semirigid Steel Frames at Elevated Temperature: MP Approach, 1148

Seismic Damage and Collapse Assessment of Composite Moment Frames, 7

Free floy

Flow through Side Sluice Gate, 909

Free surfaces

Modeling Groundwater Flow under Transient Nonlinear Free Surface, 812

Freezing

Effects of Excessive Pavement Joint Opening and Freezing on Sealants, 1336

Freight terminals

Simulation Analysis for Midterm Yard Planning in Container Terminal, 1447

Freight transportation

Comparison of Adaptive Network Based Fuzzy Inference Systems and B-Spline Neuro-Fuzzy Mode Choice Models, 139

Estimating Total Distance for Hauling Import and Export Containers, 1318

Frequency

Autorun Persistence of Hydrologic Design, 836

Frequency of Functionally Graded Plates with Three-Dimensional Asymptotic Approach, 381

Ionosphere-Free Phase Combinations for Modernized GPS, 1282

Nonlinear Vibration Characteristics of Damaged Concrete Beams, 1112

Nonparametric Approach for Estimating Return Periods of Droughts in Arid Regions, 826

Frequency analysis

Bivariate Drought Recurrence Analysis using Tree Ring Reconstructions, 827

Joint Seasonal/Annual Flood Frequency Analysis, 818

Frequency distribution

Design of Flutter Characteristics of Composite Wings Using Frequency Constraint Optimization, 40

Friction

Analytical Model to Determine the Influence of Horizontal Alignment of Two-Axle Heavy Vehicles on Upgrades, 1353

Cluster Evolution and Flow-Frictional Characteristics under Different Sediment Availabilities and Specific Gravity, 412.

Energy Release Rate due to Friction at Bimaterial Interface in Dams, 370

Estimating Overwater Friction Velocity and Exponent of Power-Law Wind Profile from Gust Factor during Storms, 1446

Friction Measurement on Cycleways using a Portable Friction Tester, 119

Numerical Parametric Study of Piezocone Penetration Test in Clays, 29

Shallow Turbulent Flows by Video Imaging Method, 408

Frost

Frozen Ground Engineering, 1616

Study of Methods to Control Frost Action in Cold Regions Tunnels, 124

Froude number

Direct Equations for Hydraulic Jump Elements in Rectangular Horizontal Channel, 891

Modeling Event-Based Temporal Variability of Flow Resistance Coefficient, 829

Particle Densimetric Froude Number for Estimating Sediment Transport, 738

Vertical Penetration of Double-Diffusive Water Plumes Discharged Vertically Downward, 752

Frozen soils

Frozen Ground Engineering, 1616

Triaxial Testing of Frozen Sand: Equipment and Example Results, 122

Fuel consumption

Impact of Stops on Vehicle Fuel Consumption, 1286

Full-scale tests

Full-Scale Test of Seismic Cable Restrainer Retrofits for Simply Supported Bridges, 92

Full-Scale Testing of Procedures for Assembling Trunnion-Hub-Girder in Bascule Bridges, 94

Load-Sharing and Redistribution in a One-Story Woodframe Building, 1209

Pavement Response and Rutting for Full Scale and Scaled APT, 1337

Furrow irrigation

Effects of Flow Depth on Water Flow and Solute Transport in Furrow Irrigation: Field Data Analysis, 885

Evaluation of Various Surface Irrigation Numerical Simulation Models, 882

Overland Water Flow and Solute Transport: Model Development and Field-Data Analysis, 867

Validation of a Predictive Form of Horton Infiltration for Simulating Furrow Irrigation, 903

Fuzzy sets

Adaptive Fuzzy Control for Nonlinear Building-Magnetorheological Damper System, 1171

Application of Fuzzy Logic to Simulation for Construction Operations, 131

Application of Fuzzy Sets Method to Identify Seepage Path through Dams, 753

Comparison of Adaptive Network Based Fuzzy Inference Systems and B-Spline Neuro-Fuzzy Mode Choice Models, 139

Environmental Impact Analysis using Fuzzy Relation for Landfill Siting, 1374

Evaluation of Solid Waste Management System using Fuzzy Composition, 504

Fuzzy Logic Spatial Decision Support System for Urban Water Management, 1386

Fuzzy Multicriteria Model for Postearthquake Land-Use Planning, 1524

Hybrid Approach for Addressing Uncertainty in Risk Assessments, 451

Hybrid Fuzzy-Stochastic Modeling Approach for Assessing Environmental Risks at Contaminated Groundwater Systems, 452

Neuro-Fuzzy Logic Model for Freeway Work Zone Capacity Estimation, 1342

Object-Oriented Evolutionary Fuzzy Neural Inference System for Construction Management, 250

Using Fuzzy Clustering of User Perception to Define Levels of Service at Signalized Intersections, 1362

Gaging stations

Radial Basis Function Neural Network for Modeling Rating Curves, 816

Simple, Practical Method for Determining Station Weights Using Thiessen Polygons and Isohyetal Maps, 823

Gamma function

Simplified Two-Parameter Gamma Distribution for Derivation of Synthetic Unit Hydrograph, 825

Gas pipelines

Analytic Hierarchy Process Analyzes Risk of Operating Cross-Country Petroleum Pipelines in India, 1543

Gasoline

Aerobic Biodegradation of Methyl Tert-Butyl Ether in Gasoline-Contaminated Aquifer Sediments, 520

Gates

Calibration of Submerged Radial Gates, 763

Flow through Side Sluice Gate, 909

Highway-Rail Quad Gate Operation Time by System Simulation of Dynamic Dilemma Zone, 1313

Gaussian distribution

Steepest Descent Method for Representing Spatially Correlated Uncertainty in GIS, 1280

Gaussian process

Algorithm for Generating Samples of Homogeneous Gaussian Fields, 288

Linear Stochastic Dynamical System under Uncertain Load: Inverse Reliability Analysis, 356

Non-Gaussian Air Gap Response Models for Floating Structures, 317

Numerical Simulation of Rain Scavenging on Large Release of Water-Soluble Gases, 450 Spectral Approach to Equivalent Statistical Quadratization and Cubicization Methods for Nonlinear Oscillators, 287

Geodetic surveys

Formulation of L₁ Norm Minimization in Gauss-Markov Models, 1261

Global Congruency Test Methods for GPS Networks, 1270

Geographic information systems

Criteria-Based Decision Support System for Selecting Highway Alignments, 1287

Geographic Information System Data for Supporting Feature Extraction from High-Resolution Aerial and Satellite Images, 1281

Geographic Information Systems-Based Three-Dimensional Critical Slope Stability Analysis and Landslide Hazard Assessment, 687

Hydrological and Fiscal Impacts of Residential Development: Virginia Case Study, 1390

Internet-Based Geographical Information Systems System for E-Commerce Application in Construction Material Procurement, 275

New Pipeline Technologies, Security, and Safety, 1628

Optimal Water Management for Reservoir-Based Irrigation Projects using Geographic Information System, 859

Real-Time Watershed Delineation System Using Web-GIS, 146

Steepest Descent Method for Representing Spatially Correlated Uncertainty in GIS, 1280

Study on Accuracy of 1-Degree DEM Versus Topographic Complexity Using G1S Zonal Analysis, 1268

Transportation Distance Measurement Data Quality, 134

Geography

Wind Speeds in ASCE 7 Standard Peak-Gust Map: Assessment, 1125

Geogrids

Closely Spaced Footings on Geogrid-Reinforced Sand, 641

Finite Element Studies of Asphalt Concrete Pavement Reinforced with Geogrid, 371

Pullout Behavior of Geogrid by Test and Numerical Analysis, 613

Geoid

How Accurately Can We Determine Orthometric Height Differences from GPS and Geoid Data?, 1256

Geology

Case History of Damage to a School Building Caused by Differentially Heaving Bedrock, 1046

Conmaterials

General Strength Criterion for Geomaterials, 36

Modeling Compression Behavior of Structured Geoma-

Geometric nonlinearity

Large-Deflection Deformation of Ferromagnetic Plates in Magnetic Fields, 311

Nonlinear Error Propagation Analysis for Explicit Pseudodynamic Algorithm, 376

Geometry

Geometric Analysis of Geodetic Data for Investigation of 3D Landslide Deformations, 1527

Geometry of Submerged Funicular Arches in Cartesian Coordinates, 1189

Interpolants within Convex Polygons: Wachspress' Shape Functions, 38

Treatment of Natural Geometry in Finite Volume River Flow Computations, 733

Geomorphology

Bed-Load Transport Equation for Sheet Flow, 709

Georgia

A Better Barrier, 1575

Coping with Uncertainty: A Case Study in Sediment Transport and Nutrient Load Analysis, 1411

Vehicle Detection Using Video Image Processing System: Evaluation of PEEK VideoTrak, 1338

Geosynthetics

Centrifugal Modeling of Seismic Behavior of Large-Diameter Pipe in Liquefiable Soil, 685

Constitutive Behavior of Geosynthetic Interfaces, 10

Strain Distribution within Geosynthetic-Reinforced Slopes, 581

Geotechnical engineering

Asset Management Framework for Geotechnical Infrastructure, 852

Building Research Skills: Course-Integrated Training Methods, 1061

Germany

Design, Construction, and Operation of Tailored Permeable Reactive Barriers, 1490

Occurrence of Endocrine-Disrupting and Other Wastewater Compounds during Water Treatment with Case Studies from Lincoln, Nebraska and Berlin, Germany, 1489

Girders

Beam Web Strength under Pairs of Concentrated Compression Loads, 1495

Fatigue Response of New Graphite/Epoxy-Concrete Girder, 162

Fatigue Strength of Steel Girders Strengthened with Carbon Fiber-Reinforced Polymer Patch, 1104

Load Distribution Factors in Simply Supported Skew Bridges, 99

Local Effects Induced by Longitudinal Forces in Composite Girders, 100

Model Validation for Bridge-Road-Vehicle Dynamic Interaction System, 83

Rehabilitation of Bridge Superstructures via the Addition of Girder Lines. I: Theoretical Considerations, 1510

Repair of Damaged Steel-Concrete Composite Girders using Carbon Fiber-Reinforced Polymer Sheets, 190

Strengthening of Steel-Concrete Composite Girders using Carbon Fiber Reinforced Polymers Sheets, 1087

Glass

ASR Potentials of Glass Aggregates in Water-Glass Activated Fly Ash and Portland Cement Mortars, 968

Interaction between Static Fatigue and Zero-Stress Aging in E-glass Fiber Composites, 157

Seismic Behavior of Curtain Walls Containing Insulating Glass Units, 63

Glass fibers

Physical Properties of Glass Fiber-Reinforced Polymer Rebars in Compression, 196

Reinforced Concrete T-Beams Strengthened in Shear with Fiber-Reinforced Polymer Sheets, 189

Time-Dependent Deformation of Pultruded Fiber-Reinforced Polymer Composite Columns, 195

Glass reinforced plastics

Nonstandard Tensile Coupon for Fiber-Reinforced Plastics, 973

Global positioning

Building Project Model Support for Automated Labor Monitoring, 129

Comparing Different Global Positioning System Data Processing Techniques for Modeling Residual Systematic Errors, 1276

Detection of Wind-Induced Response by Wavelet Transformed GPS Solutions, 1271

Effect of Temporal Physical Correlation on Accuracy Estimation in GPS Relative Positioning, 1259

Effects of Errors in Coordinates on Transformation Parameters, 1269

Exploiting Motor Vehicle Information and Communications Technology for Transportation Engineering, 1340

Global Congruency Test Methods for GPS Networks. 1270

How Accurately Can We Determine Orthometric Height Differences from GPS and Geoid Data?, 1256

Ionosphere-Free Phase Combinations for Modernized GPS, 1282

Variance Component Estimation and Precise GPS Positioning: Case Study, 1257

Governmen

Benchmarking, Benchaction, and Benchlearning: Rework Mitigation in Projects, 956

Graduate study

Combining Service Learning with Graduate Education, 1078

Grain size

Investigation of Cadmium Desorption from Different-Sized Sediments, 471

Simple Equations to Calculate Fall Velocity and Sediment Scale Parameter, 1443

A Simple formula to Estimate Settling Velocity of Natural Sediments, 1435

Granular materials

Granular Bed Baffled Reactor (Grabbr): Solution to a Two-Phase Anaerobic Digestion System, 562

Heterogeneous Strain and Bonded Granular Structure Change in Triaxial Specimen Studied by Computer Tomography, 421

Modified Shear Spring Formulation for Discontinuous Deformation Analysis of Particulate Media, 374

Numerical Investigation of Statistical Properties of Microslips in Silos, 352

Smooth Convex Three-Dimensional Particle for the Discrete-Element Method, 341

Granular media

Arsenic Removal from Groundwater by Iron Impregnated Sand, 453

Graphic methods

Estimation of Aquifer Parameters from Pumping Test
Data by Genetic Algorithm Optimization Technique,

Graphical Solution for Vertical Curve Computation,

Grasses

Bacteriophages MS2 and PRD1 in Turfgrass by Subsurface Drip Irrigation, 543

Daily Grass and Alfalfa-Reference Evapotranspiration Estimates and Alfalfa-to-Grass Evapotranspiration Ratios in Florida¹, 898

Effect of Lateral Water Surface Profile on Side Weir Discharge, 899

Field and Laboratory Evaluation of the Impact of Tall Fescue on Polyaromatic Hydrocarbon Degradation in an Aged Creosote-Contaminated Surface Soil, 470

Travel

Bedload Transport in Gravel-Bed Streams with Unimodal Sediment, 785

Cluster Evolution and Flow-Frictional Characteristics under Different Sediment Availabilities and Specific Gravity, 412

Surface-Based Transport Model for Mixed-Size Sediment, 705

Gravity waves

Nonlinear Response of Fluid-Filled Membrane in Gravity Waves, 364

Greece

Flood Forecasts for Urban Basin with Integrated Hydro-Meteorological Model, 799

Sustainability Indices of Thermal Electrical Power Production in Greece, 463

Greens function

Biparametric Models for Elastic Wedge Foundation,

Considerations of Multimode Structural Response for Near-Field Earthquakes, 334

Grid systems

Adding Value to Constructed Facilities: Facilities Management Hospitality Case Study, 1039

Digital Elevation Model Based Volume Calculations using Topographical Data, 1264

Effect of Gridding Method on Digital Terrain Model Profile Data Based on Scattered Data, 133

Three-Dimensional CFD Modeling of Self-Forming Meandering Channel, 731

Ground motion

Active Multiple Tuned Mass Dampers: A New Control Strategy, 1178

Damage Spectra: Characteristics and Applications to Seismic Risk Reduction, 1214

Hilbert-Huang Transform Analysis of Dynamic and Earthquake Motion Recordings, 378 Kinematic Soil-Structure Interaction from Strong

Motion Recordings, 610
Monitoring Crustal Movements in West Anatolia by

Precision Leveling, 1262 Simulation for Ground Movements due to Pipe Burst-

ing, 855 Statistics of Single-Degree-of-Freedom Estimate of Displacement for Pushover Analysis of Buildings,

1128

Cround water

Arsenic Removal from Groundwater by Iron Impregnated Sand, 453

Artificial Neural Network Approach for Predicting Transient Water Levels in a Multilayered Groundwater System under Varnable State, Pumping, and Climate Conditions, 838

Effects of Stormwater Infiltration on Quality of Groundwater Beneath Retention and Detention Basins, 497

Explicit Estimation of Aquifer Diffusivity from Linear Stream Stage, 742

Hybrid Fuzzy-Stochastic Modeling Approach for Assessing Environmental Risks at Contaminated Groundwater Systems, 452

Interactive Effects of Controlled Drainage and Riparian Buffers on Shallow Groundwater Quality, 868

Investigation of Fluorescent Dyes as Partitioning Tracers for Subsurface Nonaqueous Phase Liquid (NAPL) Characterization, 531

Landslide Hazard Evaluation: The Landslide Hazard Curves, 628

Modeling Groundwater Flow under Transient Nonlinear Free Surface, 812

Nonaqueous Phase Liquid Pool Dissolution as a Function of Average Pore Water Velocity, 536

Numerical Modeling of Saline Intrusion in Salar de Atacama, 802

Parameter Estimation in Groundwater Hydrology using Artificial Neural Networks, 155

Regional Water Management Modeling for Decision Support in Irrigated Agriculture, 905

Ground-water depletion

Unsteady Stream Depletion when Pumping from Semiconfined Aquifer, 800

Ground-water flow

Modeling Groundwater Flow under Transient Nonlinear Free Surface, 812

Ground-water management

Artificial Neural Network Approach for Predicting Transient Water Levels in a Multilayered Groundwater System under Variable State, Pumping, and Climate Conditions, 838

Conjunctive-Management Models for Sustained Yield of Stream-Aquifer Systems, 1383

Estimation of Aquifer Parameters from Pumping Test Data by Genetic Algorithm Optimization Technique, 897

Groundwater Quality Modeling an Management Under Uncertainty, 1617

Long-Term Groundwater Monitoring: The State of the Art, 1625

Ground-water pollution

Bioslurping Model for Assessing Light Hydrocarbon Recovery in Contaminated Unconfined Aquifer. I: Simulation Analysis, 1474

Bioslurping Model for Assessing Light Hydrocarbon Recovery in Contaminated Unconfined Aquifer. II: Optimization Analysis, 1475

Chloride Ion in Groundwater near Disposal of Solid Wastes in Landfills, 821

Design, Construction, and Operation of Tailored Permeable Reactive Barriers, 1490

Geotechnical Study for Hydraulic Barrier System at Tailings Pond, 1479 Integrated Subsurface Modeling and Risk Assessment of Petroleum-Contaminated Sites in Western Canada, 544

Modeling Pd-Catalyzed Destruction of Chlorinated Ethenes in Groundwater, 459

Numerical Simulation of Dual-Phase Vacuum Extraction to Remove Nonaqueous Phase Liquids in Subsurface, 1473

Systems Analysis of Pump-and-Treat Groundwater Remediation, 1481

Ground-water quality

Long-Term Groundwater Monitoring: The State of the Art. 1625

Grout

Grouting and Ground Treatment, 1618

Grouting

AUA Guidelines for Backfilling and Contact Grouting of Tunnels and Shafts, 1609

Factors Affecting Long-Term Efficiency of Compensation Grouting in Clays, 603

Grouting and Ground Treatment, 1618

Prepacked Grouting Process in Concrete Construction,

Guatemala

Bridge Construction in Guatemala: Linking Social Issues and Engineering, 1071

Guidelines

Chimney and Stack Inspection Guidelines, 1610

Gulf of Mexico

Decommissioning Cost Functions in the Gulf of Mexico, 1460

Gusts

Estimating Overwater Friction Velocity and Exponent of Power-Law Wind Profile from Gust Factor during Storms, 1446

Gypsum

Effects of Finish Materials and Dynamic Loading on the Cyclic Response of Woodframe Shearwalls, 1221

Influence of Portland Cement Type on Unconfined Compressive Strength and Linear Expansion of Cement-Stabilized Phosphogypsum, 556

Half space

Forced Vertical Vibration of Circular Plate in Multilayered Poroelastic Medium, 424

Harbors

Estimating Total Distance for Hauling Import and Export Containers, 1318

Restoring PATH, 1577

Container Terminal, 1447

Ship Traffic Modeling Methodology for Ports, 1449 Simulation Analysis for Midterm Yard Planning in

Hawaii

Inverse Algorithm for Tsunami Forecasts, 1434

Okada Trucking Bombshell, 1074 Thinking Deep, 1554

Hazardous waste

Analysis and Design of Evapotranspirative Cover for Hazardous Waste Landfill, 620

Multicriteria Optimization for Infectious Medical Waste Collection System Planning, 1470

- Multiobjective Risk Analysis and Optimization of Regional Hazardous Waste Management System, 1469
- Solidification/Stabilization of Hazardous Wastes Containing Metals and Organic Contaminants, 485
- Using the Analytic Hierarchy Process for Selecting an Appropriate Fate and Transport Model for Risk-Based Decision-Making at Hazardous Waste Sites, 1476

Hazards

- Erosion Hazards Index for Lateritic Soils, 1528
- Landslide Hazard Evaluation: The Landslide Hazard Curves, 628
- Natural Disaster Management in Iran during the 1990s—Need for a New Structure, 1375
- Supply and Demand System Approach to Development of Bridge Management Strategies, 853
- Urban Hazard Mitigation: Creating Resilient Cities, 1534
- Vulnerability Indicators for Coastal Dunes, 1458

Head, fluid mechanics

Determination of Critical Head in Soil Piping, 748

Head loss

- Computing Inlet Pressure Head of Multioutlet Pipeline, 910
- Discharge Formulas of Crump-De Gruyter Gate-Weir for Computer Simulation, 888
- Effects of Velocity Head and Momentum Exchange on Critical Stable Sectional Area of Downstream Throttled Surge Tank, 283

Health care facilities

- Designing Facilities Management Needs into Infrastructure Projects: Case from a Major Hospital, 1041
- Multicriteria Optimization for Infectious Medical Waste Collection System Planning, 1470

Health hazard

Quality, Environmental, and Health and Safety Management Systems for Construction Engineering, 261

Heat balanc

Modeling the Effect of Water Diversion on the Temperature of Mountain Streams, 533

Heat transfe

Percolation-Induced Heat Transfer in Deep Unsaturated Zones, 679

Heat transfer coefficient

Modeling of Moisture Behavior of Wood Planks in Nonvented Flat Roofs, 60

Heating

- Architectural Engineering 2003 Building Integration Solutions, 1607
- Decontamination of Radionuclides from Concrete by Microwave Heating. 1: Theory, 368
- Decontamination of Radionuclides from Concrete by Microwave Heating. II: Computations, 369
- Economizer Application in Dual-Duct Air-Handling Units, 68
- Thermal Behavior of Activated Carbon Cloths Heated by Joule Effect, 569

Heaving

Case History of Damage to a School Building Caused by Differentially Heaving Bedrock, 1046

Heavy metals

- Analysis of Heavy Metal Contaminated Soils, 1462
- Effect of Soil Stress on Cadmium Transport in Saturated Soils, 1480
- Investigation of Cadmium Desorption from Different-Sized Sediments, 471
- Preliminary Evaluation of Microbially Mediated Precipitation of Cadmium, Chromium, and Nickel by Rhizosphere Consortium, 443
- Robustness of River Basin Water Quality Models,
- Sequentially Enhanced Electrokinetic Remediation of Heavy Metals in Low Buffering Clayey Soils, 604
- Thermal Treatment for Incinerator Ash: Evaporation and Leaching Rates of Metals, 473

Height

- Determination of Orthometric Height of NJI2 CORS Station, 1273
- How Accurately Can We Determine Orthometric Height Differences from GPS and Geoid Data?, 1256

Heterogeneity

Characterization of Heterogeneous Soils using Surface Waves: Homogenization and Numerical Modeling. 17

High occupancy vehicles

Evaluation of Value Pricing using a Multiclass Dynamic Network Model, 1357

High strength concretes

- Drift Limits of High-Strength Concrete Columns Subjected to Load Reversals, 1115
- Early Cover Spalling in High-Strength Concrete Columns, 1116
- Effect of Strength and Fiber Reinforcement on Fire Resistance of High-Strength Concrete Columns,
- Effect of Temperature on Thermal Properties of High-Strength Concrete, 972
- Nondestructive Assessment of the Actual Compressive Strength of High-Strength Concrete, 1015
- Uniaxial Confinement Model for Normal- and High-Strength Concrete Columns, 1110

High strength steel

- Can Less Be More?, 1598
- Cross-Sectional Compactness and Bracing Requirements for HPS483W Girders, 1240
- Structural Ductility in Hybrid High Performance Steel Beams, 1241

Highway construction

- Estimating Earthwork Volumes of Curved Roadways: Simulation Model, 1258
- Estimating Future Highway Construction Costs, 229
- Freeway Work Zone Traffic Delay and Cost Optimization Model, 1311
- Geometric Modeling Systems for Construction Surveying of Highway Tunnels, 1279 Guidelines for Estimating Capacity at Freeway Recon-
- Guidelines for Estimating Capacity at Freeway Recon struction Zones, 1352
- Neuro-Fuzzy Logic Model for Freeway Work Zone Capacity Estimation, 1342
- Northeast Passage, 1587
- Radial Basis Function Neural Network for Work Zone Capacity and Queue Estimation, 1343

Ramping Up, 1590

Risk Allocation and Rish Handling of Highway Projects in Taiwan, 945

Highway design

Distributing Superelevation to Maximize Highway Design Consistency, 1298

Effect of Vertical Alignment on Driver Perception of Horizontal Curves, 1331

Frontage Roads: Assessment of Legal Issues, Design Decisions, Costs, Operations, and Land-Development Differences, 1312

Method for Balancing Cut-Fill and Minimizing the Amount of Earthwork in the Geometric Design of Highways, 1351

Highway improvements

Estimating Safety Benefits of Road Improvements: Case Based Approach, 1329

Highway maintenance

Asset Management Framework for Geotechnical Infrastructure, 852

CBR Model for Freeway Work Zone Traffic Management, 1299

Effectiveness of Preventative Maintenance Treatments using Fourteen SPS-3 Sites in Texas, 1050

Statistical Approach to Road Segmentation, 1319
Trade-Offs between Initial and Maintenance Costs of
Highways in Cross-Slopes, 842

Highway safety

In-Service Performance Evaluation of Bullnose Median Barriers in Iowa, 1291

Highway usage

Freeway Traffic Flow Rate Measurement: Investigation into Impact of Measurement Time Interval,

Highways

Criteria-Based Decision Support System for Selecting Highway Alignments, 1287

Fast Automatic Incident Detection on Urban and Rural Freeways using Wavelet Energy Algorithm, 1290 Highway Investment Planning Model for Equity Issues,

1376 Impact of Annual Average Daily Traffic on Highway

Runoff Pollutant Concentrations, 558 Lifeline Performance of El Salvador Earthquakes of January 13 and February 13, 2001, 1624

Quantitative Assessment of Environmental Impacts on Life Cycle of Highways, 200

Unleashing the Flow, 1572

Hinges

Asymptotic Matching Analysis of Scaling of Structural Failure Due to Softening Hinges. I: Theory, 353

Asymptotic Matching Analysis of Scaling of Structural Failure Due to Softening Hinges. II: Implications, 354

Ritz Buckling Analysis of Rectangular Plates with Internal Hinge, 358

Steel Semirigid Column-Tree Moment Resisting Frame Seismic Behavior, 1205

Vibration of Timoshenko Beams with Internal Hinge, 316

Hiring practices

Fostering Innovation and Entrepreneurialism in a Value-Driven Organization, 933

Historic sites

Hershey Arena: Anton Tedesko's Pioneering Form, 1113

History

Accuracy of Time History Analysis of Impulses, 1120 Aesthetic Appraisal of Antenna Towers, 65

America Transformed: Engineering and Technology in the Nineteenth Century, 1606

ASCE History and Heritage Programs, 1058

Audacious and Elegant 19th Century Porto Bridges, 1516

Experimental Investigations of Bailey Bridges, 109
Henry P. G. Darcy and Other Pioneers in Hydraulics, 1621

History and Evaluation of Hargreaves Evapotranspiration Equation, 865

The Impact of Volcanic Eruptions during the 1990s,

Leadership and Communications in Civil Engineering: Past, Present, and Future, 930

Master Builder Project Delivery System and Designer Construction Knowledge, 269

Niagara Canitlever, 71

Perspectives in Civil Engineering: Commemorating the 150th Anniversary of the American Society of Civil Engineers, 1630

Reconstructing Contaminant Deposition in a San Francisco Bay Marina, California, 522

Holes

Stress Solution of Multiple Elliptic Hole Problem in Plane Elasticity, 431

Hollow sections

Design of Retrofitting for Damaged Rectangular Hollow Sectioned Struts, 1182

Experimental Study and Calculation of Fire Resistance of Concrete-Filled Hollow Steel Columns, 1119 Longitudinal Plate and through Plate-to-Hollow Struc-

tural Section Welded Connections, 1130 Rotational Stiffness of Rectangular Hollow Sections Composite Joints, 1131

Welded Tee-to-HSS Connections, 1100

Homogeneity

Identification of Statistically Homogenous Soil Layers Using Modified Bartlett Statistics, 640

A Second Look at Taylor's Stability Chart, 686

Honeycomb structures

Control of Wave Propagation in Sandwich Plate Rows with Periodic Honeycomb Core, 389

Energy-Dissipating Polymer Matrix Composite-Infill Wall System for Seismic Retrofitting, 1126

Hong Kong

Achieving Client Satisfaction for Engineering Consulting Firms, 958

Comparison of Four Modeling Techniques for Short-Term AADT Forecasting in Hong Kong, 1315

Construction in Hong Kong: Success Factors for ISO9000 Implementation, 265

Cultural Considerations in International Construction Contracts, 239

Field Measurement of Ship Waves in Victoria Harbor, 405

Fully Coupled Analysis of Failure and Remediation of Lower San Fernando Dam, 611

Hong Kong

HKCONSIM: A Practical Simulation Solution to Planning Concrete Plant Operations in Hong Kong, 259

Levels of Service for Stairway in Hong Kong Underground Stations, 1306

Partnering in Construction: Critical Study of Problems for Implementation, 954

Horizontal drains

Consolidation of Clay with a System of Vertical and Horizontal Drains, 657

Horizontal loads

Performance of Long Rectangular Barrettes in Granitic Saprolites, 644

Housing

Feasibility and Optimization of Rigidified Inflatable Structures for Housing, 1232

Housing Quality: Implications for Design and Management, 1377

Project Management Training and Community Service, 935

Sustainable Practices to Meet Shelter Needs in India, 1371

Human factors

Prayer in Disaster: Case Study of Christian Clergy, 1520

Humic substances

Effects of Humic Materials on Photodegradation of Chlorinated Aromatic Dye in Surfactant Solution, 501

Humidity

Aging Approach to Water Effect on Alkali-Silica Reaction Degradation of Structures, 289

Effect of Lateral Water Surface Profile on Side Weir Discharge, 899

Hurricanes

Assessing Community Impacts of Natural Disasters, 1539

Comprehensive Assessment of Hurricane Shelters: Lessons from Hurricane Georges, 1541

The Creeping Storm, 1569

Electric Power Distribution System Performance in Carolina Hurricanes, 1522

Estimating Overwater Friction Velocity and Exponent of Power-Law Wind Profile from Gust Factor during Storms, 1446

Estimating Uncertainty in the Extreme Value Analysis of Data Generated by a Hurricane Simulation Model.

Exaggeration of Wind Conditions in Hurricane Floyd and Other Tropical Cyclones, 1521

Hurricane Mitigation Status and Factors Influencing Mitigation Status among Florida's Single-Family Homeowners, 1536

Hurricane Risks and Economic Viability of Strengthened Construction, 1519

Hurricane Vulnerability in Latin America and the Caribbean: Normalized Damage and Loss Potentials, 1531

Performance of Coastal Structures against Sequences of Hurricanes, 1452

Projecting Building Inventory Changes and the Effect on Hurricane Risk, 1379

Quantitative Model to Forecast Changes in Hurricane Vulnerability of Regional Building Inventory, 846

2003 ASCE TRANSACTIONS

Vulnerability Indicators for Coastal Dunes, 1458

What Are Our Expectations, Objectives, and Performance Requirements for Wood Structures in High Wind Regions?, 1535

Hybrid methods

Analytical Models for Concrete Confined with FRP Tubes, 160

"Convexifying" Linear Matrix Inequality Methods for Integrating Structure and Control Design, 1179

H₂ Energy Estimate of Boundary Controlled Vibrating Hybrid Structure Subject to Uncertain Forces, 50

Hybrid Approach for Addressing Uncertainty in Risk Assessments, 451

Hybrid Approach for Modeling Wet Weather Response in Wastewater Systems, 1426

Hybrid Fuzzy-Stochastic Modeling Approach for Assessing Environmental Risks at Contaminated Groundwater Systems, 452

Scale Transition in Steel-Concrete Interaction. II: Applications, 329

Hydration

Determination of Early Age Mortar and Concrete Strength by Ultrasonic Wave Reflections, 990

Nondestructive Testing of Mortar Specimens using the Microwave Free-Space Method, 984

Hydraulic conductivity

Construction Quality Control for Asphalt Concrete Hydraulic Barriers, 599

Determination of Hydraulic Conductivity using Piezocone Penetration Test, 33

Durability of Boston Blue Clay in Waste Containment Applications, 977

Intake Shape Factors for Entry Points in Porous Media with Transversely Isotropic Hydraulic Conductivity,

Modeling of Moisture Behavior of Wood Planks in Nonvented Flat Roofs, 60

Hydraulic design

Explicit Hydraulic Design of Microirrigation Submain Units with Tapered Manifold and Laterals, 884

Hydraulic engineering

Henry P. G. Darcy and Other Pioneers in Hydraulics, 1621

Hydraulic jets

Calibration of Submerged Radial Gates, 763

Influence of Cohesion on Scour under Sumerged Circular Vertical Jets, 798

Jet Interaction in a Still Ambient Fluid, 729

Three-Dimensional Modeling of Negatively Buoyant Flow in Diverging Channels, 789

Hydraulic jump

Direct Equations for Hydraulic Jump Elements in Rectangular Horizontal Channel, 891

Flow Conditions of Undular Hydraulic Jumps in Horizontal Rectangular Channels, 790

Hydraulic models

Applicability of Kinematic, Noninertia, and Quasi-Steady Dynamic Wave Models to Unsteady Flow Routing, 757

Coupling an Underflow Model to a Three-Dimensional Hydrodynamic Model, 769

Determination of Critical Head in Soil Piping, 748

- Estimation of Aquifer Parameters from Pumping Test Data by Genetic Algorithm Optimization Technique, 897
- Flume for Teaching Spatially Varied Open-Channel Flow, 776
- Hydrodynamic Loading on River Bridges, 781
- Liquid Volume Fluxes in Stratified Multiphase Plumes, 786
- Night Irrigation Reduction for Water Saving in Medium-Sized Systems, 871
- Regional Water Management Modeling for Decision Support in Irrigated Agriculture, 905

Hydraulic networks

Dynamic Modeling of Pressure Reducing Valves, 775

Hydraulic performance

- Hydraulic Analysis of Orlando Easterly Wetland, 508
- Hydraulic Performance Index of a Sewer Network, 747
- Night Irrigation Reduction for Water Saving in Medium-Sized Systems, 871

Hydraulic roughness

Atmospheric Momentum Roughness Applied to Stage-Discharge Relationships in Flood Plains, 810

Hydraulic structures

- Advances in Coastal Structure Design, 1604
- Estimating Instantaneous Peak Flow from Mean Daily Flow Data, 840

Hydraulic transients

Parameter Estimation of the Transient Storage Model for Stream-Subsurface Exchange, 496

Hydraulics

Effect of Jet Air Content on Plunge Pool Scour, 730

Hydraulics of Bottom Rack Intake, 693

Hydrocarbons

- Bioslurping Model for Assessing Light Hydrocarbon Recovery in Contaminated Unconfined Aquifer. 1: Simulation Analysis, 1474
- Bioslurping Model for Assessing Light Hydrocarbon Recovery in Contaminated Unconfined Aquifer. II: Optimization Analysis, 1475
- Formulation of Mix Design for Asphaltic Incorporation of Hydrocarbon Contaminated Soil, 980
- Instability of Hydrocarbon Films over Mineral Surfaces: Microscale Experimental Studies, 573
- Numerical Simulation of Dual-Phase Vacuum Extraction to Remove Nonaqueous Phase Liquids in Subsurface, 1473
- Reconstructing Contaminant Deposition in a San Francisco Bay Marina, California, 522

Hydrodynamic pressure

Bay of Fundy, 1440

Hydrodynamic Loading on River Bridges, 781

Hydrodynamics

- Hydraulics of Submerged Jet Subject to Change in Cohesive Bed Geometry, 696
- Hydrodynamic Modeling of Coastal LNG Cooling Water Discharge, 278
- Incipient Motion of Bivalve Shells on Sand Beds under Flowing Water, 309
- Modeling of Flow Resistance in Mangrove Swamp at Mouth of Tidal Keelung River, Taiwan, 1437 Three-Dimensional Modeling of Tidal Circulation in

Use of Steady-State Pump Head-Discharge Curve for Unsteady Pipe Flow Applications, 796

Hydroelectric power generation

- Dynamic Optimal Unit Commitment and Loading in Hydropower Systems, 1415
- Modeling the Effect of Water Diversion on the Temperature of Mountain Streams, 533

Hydroelectric powerplants

- Effects of Velocity Head and Momentum Exchange on Critical Stable Sectional Area of Downstream Throttled Surge Tank, 283
- High-Profile Tunneling, 1580
- Optimization of Large-Scale Hydropower System Operations, 1397

Hydrogen sulfide

Field Measurements and Modeling of Two-Stage Biofilter that Treats Odorous Sulfur Air Emissions, 534

Hydrographs

- Comparative Analysis of Event-Based Rainfall-Runoff Modeling Techniques—Deterministic, Statistical, and Artificial Neural Networks, 809
- Delaunay Triangulation Algorithms Useful for Multibeam Echosounding, 1267
- Nonlinear Convection-Diffusion Equation with Mixing-Cell Method for Channel Flood Routing, 828
- Simplified Two-Parameter Gamma Distribution for Derivation of Synthetic Unit Hydrograph, 825
- True Form of Instantaneous Unit Hydrograph of Linear Reservoirs, 860

Hydrologic aspects

Nonlinear Hydrologic Processes: Conservation Equations for Determining Their Means and Probability Distributions, 804

Hydrologic data

State-Space Discretization of the Kalinin-Milyukov-Nash-Cascade in a Sample-Data System Framework for Streamflow Forecasting, 837

Hydrologic models

- Estimating Basin Evapotranspiration using Distributed Hydrologic Model, 807
- Hydrodynamic Modeling of Coastal LNG Cooling Water Discharge, 278
- Hydrological and Fiscal Impacts of Residential Development: Virginia Case Study, 1390
- Modeling Reservoir Irrigation in Uncertain Hydrologic Environment, 877
- Parameter Estimation in Groundwater Hydrology using Artificial Neural Networks, 155
- Parameters Affecting the Performance of Wetting and Drying in a Two-Dimensional Finite Element Long Wave Hydrodynamic Model, 758
- Real-Time Watershed Delineation System Using Web-GIS, 146
- Regulated Riparian Model Water Code, 1635
- State-Space Discretization of the Kalinin-Milyukov-Nash-Cascade in a Sample-Data System Framework for Streamflow Forecasting, 837

Hydrology

- Autorun Persistence of Hydrologic Design, 836
- Estimation of Urban Imperviousness and its Impacts on Storm Water Systems, 1418
- Smart Growth: Hydrologic Perspective, 1072

Hydrology

Weighted-Climate Parametric Hydrologist Forecasting, 817

Hydromechanics

Two-Phase (Air and Water) Flow through Rock Joints: Analytical and Experimental Study, 666

Hydrostatic pressure

Pressure Relief, 1552

Hydrostatics

Nonhydrostatic Three-Dimensional Method for Hydraulic Flow Simulation. II: Validation and Application, 713

Nonhydrostatic Three-Dimensional Model for Hydraulic Flow Simulation. I: Formulation and Verification, 712

Hysteresis

Experimental Study on Steel Shear Wall with Slits,

Influence of Hysteretic Behavior on Equivalent Period and Damping of Structural Systems, 1140

Nonlinear Control Methodologies for Hysteresis in PZT Actuated On-Blade Elevons, 55

Hysteretic systems

Damage Spectra: Characteristics and Applications to Seismic Risk Reduction, 1214

Dynamic Instability of Simple Structural Systems, 1255

Exact Solution for Dynamic Response of Multi-Degree-of-Freedom Bilinear Hysteretic Systems, 425

Ice

Decision Tree Assessment of Challenging Technologies for Mission to Europa, 51

Enlarged Base (Belled) Piles for Use in Ice or Ice-Rich Permafrost, 121

Estimating Soil Liquefaction in Ice-Induced Vibration of Bucket Foundation, 120

Ice control

Propylene Glycol Deicer Biodegradation Kinetics: Anaerobic Complete-Mix Stirred Tank Reactors, Filter, and Fluidized Bed, 456

Upstream Effects of Cazenovia Creek Ice-Control Structure, 117

Ice cover

Crushing Ice Forces on Structures, 125

Ice disintegration

Crushing Ice Forces on Structures, 125

Ice forces

Crushing Ice Forces on Structures, 125

Ice jams

Suitability of Dynamic Modeling for Flood Forecasting during Ice Jam Release Surge Events, 118

Upstream Effects of Cazenovia Creek Ice-Control Structure, 117

Ice loads

Crushing Ice Forces on Structures, 125

Ice mechanics

Crushing Ice Forces on Structures, 125

Ice pressure

Crushing Ice Forces on Structures, 125

2003 ASCE TRANSACTIONS

Illinois

Evaluation of Neural Networks for Modeling Nitrate Concentrations in Rivers, 1425

Making the Transition, 1566

Urban Beaches: Balancing Public Rights and Private Development, 1646

Image analysis

Geographic Information System Data for Supporting Feature Extraction from High-Resolution Aerial and Satellite Images, 1281

Imaging techniques

Accuracy of Digital Image Correlation for Measuring Deformations in Transparent Media, 135

Behavior of Reinforced Concrete Beams with Loss of Bond at Longitudinal Reinforcement, 1219

Capacitive Micromachined Ultrasonic Transducers: Theory and Technology, 46

Combined Particle Image Velocimetry/Planar Laser Induced Fluorescence for Integral Modeling of Buoyant Jets, 410

Evaluation of Color Changes in Sewage Sludge Ash Brick by using Image Analysis Method, 1485

Failure Process of Granite, 20

FPGA Based Satellite Adaptive Image Compression System, 52

Generation of Digital Orthophotos from IKONOS Satellite Images, 1266

Mapping Root Zone Soil Moisture using Remotely Sensed Optical Imagery, 895

Noncontract Photogrammetric Measurement of Vertical Bridge Deflection, 95

Particle Image Velocimetry System with Self-Organized Feature Map Algorithm, 407

Real-Time Image Thresholding Based on Sample Space Reduction and Interpolation Approach, 153

Shallow Turbulent Flows by Video Imaging Method, 408

Simultaneous Particle Image Velocimetry and Laser Doppler Velocimetry Measurements of Periodical Oscillatory Horseshoe Vortex System near Square Cylinder-Base Plate Juncture, 409

Ultrasonic Imaging of Concrete Elements using Reconstruction by Synthetic Aperture Focusing Technique, 989

Vehicle Detection Using Video Image Processing System: Evaluation of PEEK VideoTrak, 1338

Impact

Characterizing Debris Clouds Created in Oblique Orbital Debris Particle Impact, 56

Effects of Seismically Induced Pounding at Expansion Joints of Concrete Bridges, 414

Fluid Motion Generated by Impact, 1456

The Impact of Volcanic Eruptions during the 1990s, 1538

Interactive Failure of Two Impacting Beams, 383

Perforation Thickness and Ballistic Limit of Concrete Target Subjected to Rigid Projectile Impact, 400

Impact tests

Nondestructive Evaluation of Tuned-Mass-Damper-Type Vibration Absorbers using Vibration Signatures, 1028

Imports and exports

Estimating Total Distance for Hauling Import and Export Containers, 1318

SUBJECT INDEX

Impoundments

Natural Stabilization of Stored Industrial Sludges, 472

In situ test

Behavior of Plate Load Tests on Soil Layers Improved with Cement and Fiber, 587

Dynamic Stiffness Modulus for Pavement Subgrade Evaluation, 1335

In Situ Estimate of Shear Wave Velocity using Borehole Spectral Analysis of Surface Waves Tool, 629

Incipient motion

Incipient Motion of Bivalve Shells on Sand Beds under Flowing Water, 309

India

Correlation Survey for Shaft Deepening in Digwadih Underground Coal Mine, 1260

Disaster Management Plan for the State of Maharashtra, India: Evolutionary Process, 1542

Effect of Lane Width on Capacity under Mixed Traffic Conditions in India, 1301

Geotechnical Study for Hydraulic Barrier System at

Geotechnical Study for Hydraulic Barrier System at Tailings Pond, 1479

Optimal Sizing of On-Farm Reservoirs for Supplemental Irrigation, 872

Sustainable Practices to Meet Shelter Needs in India, 1371 Travel Characteristics of Commuters Accessing Tran-

Indiana

Real-Time Watershed Delineation System Using Web-GIS, 146

Industrial wastes

sit: Case Study, 1365

Biotrickling Filtration for Control of Volatile Organic Compounds from Microelectronics Industry, 516

Combined System for Biological Removal of Nitrogen and Carbon from a Fish Cannery Wastewater, 540

Influence of Portland Cement Type on Unconfined Compressive Strength and Linear Expansion of Cement-Stabilized Phosphogypsum. 556

Laboratory Pilot Test of Chromium (III) Isolation from Acid Extract of Tannery Sludge, 1468

Natural Stabilization of Stored Industrial Sludges, 472 Performance Characteristics of Soil-Cement from Industry Waste Binder, 1035

Industrial water

Activated Carbon Addition to an Activated Sludge Model Reactor for Color Removal from a Cotton Textile Processing Watewater, 568

Inelastic action

Behavior of Roof Deck Diaphragms under Quasistatic Cyclic Loading, 1248

Damage Spectra: Characteristics and Applications to Seismic Risk Reduction, 1214

Inelastic Behavior and Ductility Capacity of Reinforced Concrete Bridge Piers under Earthquake. 1: Theory and Formulation, 1201

Inelastic Behavior and Ductility Capacity of Reinforced Concrete Bridge Piers under Earthquake. II: Numerical Validation, 1202

Inelastic Seismic Response of Frame Fasteners for Steel Roof Deck Diaphragms, 1247

Inelastic Seismic Response of Side Lap Fasteners for Steel Roof Deck Diaphragms, 1246

Information management

Nonlinear Behavior of Heavy Class Steel Truss Bridges, 1192

Plastic Torsional Buckling of Cruciform Compression Members, 359

Statistics of Single-Degree-of-Freedom Estimate of Displacement for Pushover Analysis of Buildings, 1128

Infiltration

Field Verification of Two-Dimensional Surface Irrigation Model, 902

Hydrologic Behavior of Residual Soil Slopes in Singapore, 813

Improved Decomposition Solution to Green and Ampt Equation, 815

Simple Estimation of Prevalence of Hortonian Flow in New York City Watersheds, 822

Two-Dimensional Basin Flow with Irregular Bottom Configuration, 901

Validation of a Predictive Form of Horton Infiltration for Simulating Furrow Irrigation, 903

Inflatable structures

Feasibility and Optimization of Rigidified Inflatable Structures for Housing, 1232

Feasibility of Rigidified Inflatable Structures for Housing, 57

Inflow

Case Study: Impact of Reservoir Stratification on Interflow Travel Time, 792

Coupling an Underflow Model to a Three-Dimensional Hydrodynamic Model, 769

Water Reservoir Control with Data Mining, 1382

Influents

Occurrence and Degradation of Estrogenic Nonylphenol and its Precursors in Northeast Kansas Wastewater Treatment Plants, 1484

Information

Exploiting Motor Vehicle Information and Communications Technology for Transportation Engineering, 1340

The Mission of the Civil Engineer in the Movement of Globalization, 925

Information centers

Engineering Information Service Infrastructure for Ubiquitous Computing, 148

Information management

Applying Handheld Computers in the Construction Industry, 1517

As-Built Information Model for Bridge Maintenance, 137

Construction Research Congress In Construction -Wind of Change: Integration and Innovation, 1611

Engineering Information Classification System, 249
Engineering Information Service Infrastructure for
Ubiquitous Computing, 148

Integrated Development of Facilities Design and Services, 1038

Internet-Based Information Management for Production Builders, 922

Java Inspection Framework: Developing Field Inspection Support Systems for Civil Systems Inspection, 149

Knowledge Mining of Information Sources for Research in Construction Management, 218

- Master Builder Project Delivery System and Designer Construction Knowledge, 269
- An Ontology for Relating Features with Activities to Calculate Costs, 151
- Towards a Vision for Information Technology in Civil Engineering, 1644
- Workforce Demographics among Project Engineering Professionals—Crisis Ahead?, 959

Information retrieval

A New Approach to Effective Use of Design Rationale in Practice, 62

Information systems

- Comparing Driver Information Systems in a Dynamic Modeling Framework, 1288
- Florida DOT Project-Level Bridge Management Models, 110
- Network Reserve Capacity under Influence of Traveler Information, 1314

Information technology (IT)

- Impact of Information Technology on Facility Engineering, 924
- IT Strategy for Construction Compaines: A Pragmatist's Vision, 923
- Targeted Portals: Facilitating Innovation in Building Technology through Online Resources, 919
- Technical, Managerial, and Organizational CHanges in Adapting an E-Commerce Model in Civil Engineering Design and Consulting Services, 937
- Towards a Vision for Information Technology in Civil Engineering, 1644
- XML for Capital Facilities, 920

Infrared imaging

Preliminary Thermography Studies for Quality Control of Concrete Structures Strengthened with Fiber-Reinforced Polymer Composites, 992

Infrastructure

- Adaptive Optimization of Infrastructure Maintenance and Inspection Decisions under Performance Model Uncertainty, 854
- Advancing Mitigation Technologies and Disaster Response for Lifeline Systems, 1605
- Alternate Financing Strategies for Build-Operate-Transfer Projects, 221
- Asset Management Framework for Geotechnical Infrastructure, 852
- Atico, Peru Mw 8.4 Earthquake of June 23, 2001, 1608 Evaluating Disaster Mitigations: Methodology for
- Urban Infrastructure Systems, 1540
 Infrastructure Issues for Cities—Countering Terrorist
- Threat. 845
 Integrated Infrastructure Management Systems: Small
- Urban Area's Experience, 851
 Life-Cycle Performance of Deteriorating Structures:
- Assessment, Design and Management, 1623 Life-Cycle Reliability-Based Maintenance Cost Optimization of Deteriorating Structures with Emphasis on Bridges, 1165
- Lifeline Performance of El Salvador Earthquakes of January 13 and February 13, 2001, 1624
- Nondestructive Evaluation of Concrete Infrastructure with Ground Penetrating Radar, 995
- Recent Research in Nondestructive Evaluation of Civil Infrastructures, 996

- Reconstruction of the Building Infrastructure: Two Performance Prediction Models, 843
- Risk-Based Expenditure Allocation for Infrastructure Improvement, 115
- Risk-Based Life-Cycle Costing of Infrastructure Rehabilitation and Construction Alternatives, 841

Shaken, 1555

- Strategic Characterization of Water System Infrastructure and Management, 955
- Sustainability and Urban Public Transportation (Twelfth Francis C. Turner Lecture), 1323
- Valuing Flexibility in Infrastructure Expansion, 850
- World Water & Environmental Resources Congress 2003 and Related Symposia, 1648

Inlets, waterways

- Computing Inlet Pressure Head of Multioutlet Pipeline,
- Inlet Pressure, Energy Cost, and Economic Design of Tapered Irrigation Submains, 870
- Wave Simulations in Ponce de Leon Inlet using Boussinesq Model, 1441

Innovation

- Construction Research Congress In Construction -Wind of Change: Integration and Innovation, 1611
- Fostering Innovation and Entrepreneurialism in a Value-Driven Organization, 933

Inspection

- Adaptive Optimization of Infrastructure Maintenance and Inspection Decisions under Performance Model Uncertainty, 854
- Analytic Hierarchy Process Analyzes Risk of Operating Cross-Country Petroleum Pipelines in India, 1543
- Chimney and Stack Inspection Guidelines, 1610
- Java Inspection Framework: Developing Field Inspection Support Systems for Civil Systems Inspection, 149
- Nondestructive Evaluation of Concrete Infrastructure with Ground Penetrating Radar, 995

Installation

- Comparative Performance Evaluation of Tele-Operated Pipe Laying, 201
- Evaluation of High-Density Polyethylene Pipe Installed using Horizontal Directional Drilling, 203
- Installation Stress in Prefabricated Vertical Drains, 659

Instream flow

- Estimation of Sustainable Yield of Some Rivers in Trinidad, 803
- Seasonal Prediction with Error Estimation of Columbia River Streamflow in British Columbia, 1394

Instrumentation

- Rheological Behavior of Fine and Large Particle Suspensions, 774
- Sheet Pile Tensions in Cellular Structures, 600

Intakes

- Hydraulics of Bottom Rack Intake, 693
- Intake Shape Factors for Entry Points in Porous Media with Transversely Isotropic Hydraulic Conductivity, 27

Integral equations

Discretization of Integral Equations Describing Flow in Nonprismatic Channels with Uneven Beds, 717

Integrated systems

Integrated Approach to Total Maximum Daily Load Development for Neuse River Estuary using Bayesian Probability Network Model (Neu-BERN), 1404

Integrated Infrastructure Management Systems: Small Urban Area's Experience, 851

Intelligent transportation systems

Dynamic Travel Time Prediction with Real-Time and Historic Data, 1356

Hot Spot Management Benefits: Robustness Analysis for a Congested Developing City, 1307

Impact of Dynamic and Safety-Conscious Route Guidance on Accident Risk, 1327

Modeling and Forecasting Vehicular Traffic Flow as a Seasonal ARIMA Process: Theoretical Basis and Empirical Results, 1363

Reinforcement Learning for the *True* Adaptive Traffic Signal Control, 1316

Interactions

Improving the Strength and Ductility of Rectangular Reinforced Concrete Columns through Composite Partial Interaction: Tests, 1199

Interactive Failure of Two Impacting Beams, 383

Jet Interaction in a Still Ambient Fluid, 729

Interactive systems

Design of Highway Bridges: Natural Place for CBR,

Interchanges

Ramping Up, 1590

Interface shear

Constitutive Behavior of Geosynthetic Interfaces, 10

Interfaces

Constitutive Behavior of Geosynthetic Interfaces, 10

Energy Release Rate due to Friction at Bimaterial Interface in Dams, 370

Extended Hyperbolic Model for Sand-to-Concrete Interfaces, 674

Full-Scale Testing of Procedures for Assembling Trunnion-Hub-Girder in Bascule Bridges, 94

Substructural Identification Method without Interface Measurement, 367

Internal waves

Comparison of Laboratory and Theoretical Internal Solitary Wave Kinematics, 1451

Evidence of High Vertical Wave-Number Behavior in a Continuously Stratified Reservoir: Boadella, Spain, 768

International factors

Cultural Considerations in International Construction Contracts, 239

Disaster Management Plan for the State of Maharashtra, India: Evolutionary Process, 1542

Internationalization of Chinese Construction Enterprises, 264

The Mission of the Civil Engineer in the Movement of Globalization, 925

Performance in International Construction Joint Ventures: Modeling Perspective, 267

Virtual Teams: Guide to Successful Implementation, 950

Internet

Building Research Skills: Course-Integrated Training Methods, 1061

Constraint-Based Planning with Integrated Production Scheduler over Internet, 232

Design Review Checking System with Corporate Lessons Learned, 251

Integrated Electronic Commerce Model for the Construction Industry, 263

Internet-Based Geographical Information Systems System for E-Commerce Application in Construction Material Procurement, 275

Internet-Based Information Management for Production Builders, 922

Management Online: Mining the Full Potential of the Intranet, 931

The Mission of the Civil Engineer in the Movement of Globalization, 925

Process-Parameter-Interface Model for Design Management, 271

Real-Time Watershed Delineation System Using Web-GIS, 146

Targeted Portals: Facilitating Innovation in Building Technology through Online Resources, 919

Technical, Managerial, and Organizational CHanges in Adapting an E-Commerce Model in Civil Engineering Design and Consulting Services, 937

Web-Based Centralized Multiclient Cooperative Contractor Registration System, 130

Intersections

Estimating Rear-End Accident Probabilities at Signalized Intersections: Occurrence-Mechanism Approach, 1328

Impacts of Red Light Camera on Violation Characteristics, 1361

On-Line Measure of Shockwaves for ITS Applications, 1283

Simulation Modeling and Variability Assessment of Delays at Traffic Signals, 1304

Using Fuzzy Clustering of User Perception to Define Levels of Service at Signalized Intersections, 1362

Interstate highways

Characterization of Freeway Capacity Reduction Resulting from Traffic Accidents, 1326

Frontage Roads: Assessment of Legal Issues, Design Decisions, Costs, Operations, and Land-Development Differences, 1312

Northeast Passage, 1587

Investments

Highway Investment Planning Model for Equity Issues, 1376

Ion exchange

Hydrofluoric Acid Recovery from Waste Semiconductor Acid Solution by Ion Exchange, 498

Iowa

In-Service Performance Evaluation of Bullnose Median Barriers in Iowa, 1291

Nonhydrostatic Three-Dimensional Method for Hydraulic Flow Simulation. II: Validation and Application, 713

Nonhydrostatic Three-Dimensional Model for Hydraulic Flow Simulation. 1: Formulation and Verification, 712

Iron

Natural Disaster Management in Iran during the 1990s—Need for a New Structure, 1375

Irrigation

Allocation of Scarce Water Resources using Deficit Irrigation in Rotational Systems, 876

Explicit Hydraulic Design of Microirrigation Submain Units with Tapered Manifold and Laterals, 884

Inlet Pressure, Energy Cost, and Economic Design of Tapered Irrigation Submains, 870

Integrated Hydrologic-Agronomic-Economic Model for River Basin Management, 1380

Mapping Root Zone Soil Moisture using Remotely

Sensed Optical Imagery, 895

Modeling Reservoir Irrigation in Uncertain Hydrologic

Modeling Reservoir Irrigation in Uncertain Hydrologic Environment, 877

Optimal Design and Operation of Irrigation Pumping Stations, 875

Optimal Sizing of On-Farm Reservoirs for Supplemental Irrigation, 872

Pond Water Source for Irrigation on Steep Slopes, 879

Regional Water Management Modeling for Decision Support in Irrigated Agriculture, 905

Two-Dimensional Simulation Model for Contour Basin Layouts in Southeast Australia. 1: Rectangular Basins, 893

Two-Dimensional Simulation Model for Contour Basin Layouts in Southeast Australia. II: Irregular Shape and Multiple Basins, 894

Irrigation practices

Night Irrigation Reduction for Water Saving in Medium-Sized Systems, 871

Irrigation systems

Water Delivery System Planning Considering Irrigation Simultaneity, 886

Islands

Wetlands at Work, 1550

Isolation

Tension Buckling in Multiplayer Elastomeric Bearings, 478

Isotropy

Creep of Polymer Matrix Composites. I: Norton/ Bailey Creep Law for Transverse Isotropy, 318

Creep of Polymer Matrix Composites. II: Monkman-Grant Failure Relationship for Transverse Isotropy, 319

Intake Shape Factors for Entry Points in Porous Media with Transversely Isotropic Hydraulic Conductivity, 27

Spline Semidiscretization Analysis for Orthotropic Plates and Shells, 290

Israel

Keyblock Stability in Seismically Active Rock Slopes—Snake Path Cliff, Masada, 645

Italy

Integrated Methodology for Design of Polluted Water Control System of Road Infrastructures for Environmental Protection, 1293

Interpretation of Slope Movements Induced by Adjacent Large Landslide in Northern Italy, 1526

Jacking

The Big Dig's Big Dig, 1584

Japan

Damping Evaluation using Full-Scale Data of Buildings in Japan, 1129

Modeling Urbanization by Accessibility in Rapid-Growth Areas, 1370

Reliability-Based Assessment of Suspension Bridges: Application to the Innoshima Bridge, 5

Repair of New Long-Span Bridges Damaged by the 1995 Kobe Earthquake, 1056

Jet grouting

An Alternative Approach, 1573

Thermochemomechanical Assessment of Ground Improvement by Jet Grouting in Tunneling, 387 Use of Jet Grouting to Limit Diaphragm Wall Displacement of a Deep Excavation, 592

Yote

Shallow Turbulent Flows by Video Imaging Method, 408

Stability of Periodically Unsteady Axisymmetric Jet,

loint ventures

Performance in International Construction Joint Ventures: Modeling Perspective, 267

Inints

Creep of Wood I-Joists Exposed to Abnormally High Moisture Conditions, 1497

Direct Shear Test of Sandstone-Concrete Joints, 14 Dynamic Bending Strains in Planar Trusses with Pinned or Rigid Joints, 320

Elastoplastic Large Deflection Analisis of Three-DImensional Steel Frames, 1207

Experimental Investigation of Bonded Fiber Reinforced Polymer-Concrete Joints under Cyclic Loading, 171

Experimental Investigation of FRP-Strengthened RC Beam-Column Joints, 161

Load and Resistance Factor Design of Timber Joints: International Practice and Future Direction, 3

Modeling Reinforced-Concrete Beam-Column Joints Subjected to Cyclic Loading, 1251

Models for Concentrated Load Performance Assessment of Isotropic Wood Floor Sheathing, 1188 Residential Floor Systems: Wood I-Joist Creep Behav-

ior, 61 Rotational Stiffness of Rectangular Hollow Sections Composite Joints, 1131

Stress and Strain Concentration Factors of Completely Overlapped Tubular K(N) Joints, 1086

Jordan

Housing Quality: Implications for Design and Management, 1377

Kansas

Occurrence and Degradation of Estrogenic Nonylphenol and its Precursors in Northeast Kansas Wastewater Treatment Plants, 1484

Sampling Adjustment Factors for Rainfall Recorded at Fixed Time Intervals, 832

Karst

Sinkholes and the Engineering and Environmental Impacts of Karst, 1639

Kinematic wave theory

Kinematic Wave Model of Urban Pavement Rainfall-Runoff Subject to Traffic Loadings, 518

- Modeling Event-Based Temporal Variability of Flow Resistance Coefficient, 829
- True Form of Instantaneous Unit Hydrograph of Linear Reservoirs, 860

Kinomatics

- "Bizxiality Effect" on the Energy Dissipated by Elastoplastic Base-Isolators, 349
- Comparison of Laboratory and Theoretical Internal Solitary Wave Kinematics, 1451
- Dynamic Model for Monitoring Landslides with Emphasis on Underground Water in Trabzon Province, Northeastern Turkey, 1274
- Heterogeneous Strain and Bonded Granular Structure Change in Triaxial Specimen Studied by Computer Tomography, 421
- Kinematic Soil-Structure Interaction from Strong Motion Recordings, 610
- Monitoring Crustal Movements in West Anatolia by Precision Leveling, 1262

Kinetics

- Adsorption-Desorption Rate of Nonpolar Volatile Organic Compounds onto Activated Carbon Exemplified by C₆H₆ and CCI₄, 1477
- Biotrickling Filtration for Control of Volatile Organic Compounds from Microelectronics Industry, 516
- Characteristics of Hyperconcentrated Sediment-Laden Flows, 442
- Dynamic Mathematical Modeling of an Isothermal Three-Phase Reactor: Model Development and Validation, 513
- Effects of Oxygen on Pyrolysis Kinetics of Tetra Pack, 487
- Kinetic Study on Absorption of SO₂ and NO with Acidic NaClO₂ Solutions using the Spraying Column, 557
- Modeling Tetrachloroethylene Decomposition in Photosonolysis Reactor, 458
- Propylene Glycol Deicer Biodegradation Kinetics: Anaerobic Complete-Mix Stirred Tank Reactors, Filter, and Fluidized Bed, 456

Knowledge-based systems

- Knowledge-Based System on Optimum Design of Liquid Retaining Structures with Genetic Algorithms,
- Master Builder Project Delivery System and Designer Construction Knowledge, 269

Labor

- Baseline Determination in Construction Labor Productivity-Loss Claims, 957
- Building Project Model Support for Automated Labor Monitoring, 129
- Can Labor Inputs be Measured and Controlled Automatically?, 247
- Forecasting Construction Stuffing for Transportation Agencies, 952
- Improving Labor Flow Reliability for Better Productivity as Lean Construction Principle, 227 Labor Productivity Drivers and Opportunities in the
- Construction Industry, 947

 Role of Workforce Management in Bridge Superstructure Labor Productivity, 939

Labor relations

Labor-Management Cooperation and Customer Satisfaction, 216

Managing Employee Life Cycles to Improve Labor Retention, 913

Laboratory tests

- Bed Shear Stress Boundary Condition for Storage Tank Sedimentation, 521
- Behavior of Plate Load Tests on Soil Layers Improved with Cement and Fiber, 587
- Effect of Compressive Load on Uplift Capacity of Model Piles, 673
- Electrochemical Reduction of 2.4-Dinitrotoluene in a Continuous Flow Laboratory Scale Reactor, 465
- Factors Affecting Long-Term Efficiency of Compensation Grouting in Clays, 603
- Laboratory Measurements of Void Fraction and Turbulence in the Bore Region of Surf Zone Waves, 411
- Laboratory Study of Loose Saturated and Unsaturated Decomposed Granitic Soil, 631
- Laboratory-Based Productivity Study on Alternative Masonry Systems, 225
- Particle Image Velocimetry Measurements within a Laboratory-Generated Swash Zone, 403
- Relating K., to Relative State Parameter Index, 650

Lagoons

Lagoon Effluent Treatment using Grass Filtration, 563

Lagrangian functions

- Fluid Motion Generated by Impact, 1456
- Optimal Design and Operation of Irrigation Pumping Stations, 875

Lakes

- Consideration of Variability and Uncertainty in Phosphorus Total Maximum Daily Loads for Lakes, 1410
- Coupling an Underflow Model to a Three-Dimensional Hydrodynamic Model, 769
- Duration of Probable Maximum Precipitation on Lake Catchments: Alternative Analysis, 819
- Dynamics of Large Polymictic Lake. I: Field Observations, 701
- Dynamics of Large Polymictic Lake. II: Numerical Simulations, 702
- Projected Sulfate Redistribution as Impacted by Lake Level Stabilization Scenarios: Devils Lake, North Dakota, 1416
- Reducing Numerical Diffusion Effects with Pycnocline Filter, 714

Laminar flow

- Laminar Pipeline Flow of Wastewater Sludge: Computational Fluid Dynamics Approach, 708
- Laminar Water Wave and Current Passing over Porous Bed, 355

Laminates

- Behavior of Concrete Beams Strengthened with Fiber-Reinforced Polymer Laminates under Impact Loading, 180
- Composite Reinforcement to Strengthen Existing Concrete Structures against Air Blast, 167
- Field Assessment of Unreinforced Masonry Walls Strengthened with Fiber Reinforced Polymer Laminates, 1185
- Imperfection Sensitivity of Laminated Cylindrical Shells According to Different Shell Theories, 396
- Residual Shear Strength Mobilized in First-Time Slope Failures, 580

2003 ASCE TRANSACTIONS

Use of Composite Reinforcement to Strengthen Concrete and Air-Entrained Concrete Masonry Walls against Air Blast, 168

Land development

Smart Growth: Hydrologic Perspective, 1072

Land usage

Detention Pond Design and Land Use Planning for Watershed Management, 1389

Fuzzy Multicriteria Model for Postearthquake Land-Use Planning, 1524

Hydrological and Fiscal Impacts of Residential Development: Virginia Case Study, 1390

Landfills

Analysis and Design of Evapotranspirative Cover for Hazardous Waste Landfill, 620

Biogeochemical Evaluation of Mechanisms Controlling CaCO_{lon} Precipitation in Landfill Leachate-Collection Systems, 529

Chloride Ion in Groundwater near Disposal of Solid Wastes in Landfills, 821

Composite Compressibility Model for Municipal Solid Waste, 614

Constitutive Behavior of Geosynthetic Interfaces, 10

Detecting Landfill Leachate Contamination using Soil Electrical Properties, 1461

Environmental Impact Analysis using Fuzzy Relation for Landfill Siting, 1374

Examining the Alternatives, 1568

Innovative Waste Containment Barriers for Subsurface Pollution Control, 1466

Long-Term Landfill Primary and Secondary Leachate Production, 682

Relationship of Compressibility Parameters to Municipal Solid Waste Decomposition, 691

Translational Failure Analysis of Landfills, 627

Under Cover. 1592

Landscaping

Systematic Reliability-Based Environmental Design of Erosion for Efficient Engineered Landscape Profiling, 517

Landslide

Dynamic Model for Monitoring Landslides with Emphasis on Underground Water in Trabzon Province, Northeastern Turkey, 1274

Erosion Hazards Index for Lateritic Soils, 1528

Geographic Information Systems-Based Three-Dimensional Critical Slope Stability Analysis and Landslide Hazard Assessment, 687

Geometric Analysis of Geodetic Data for Investigation of 3D Landslide Deformations, 1527

Inclined Plane Studies of the Newmark Sliding Block Procedure, 643

Interpretation of Slope Movements Induced by Adjacent Large Landslide in Northern Italy, 1526

Landslide Hazard Evaluation: The Landslide Hazard Curves, 628

Probability of Failure Occurrence and Recurrence in Rock Slopes Stability Analysis, 15

Lateral forces

Dynamic Instability of Simple Structural Systems, 1255

Lateral loads

Behavior of Laterally Loaded Large-Section Barrettes, 639

Case History Evaluation of Laterally Loaded Piles, 596 Cyclic Flexure Tests of Masonry Walls Reinforced

with Glass Fiber Reinforced Polymer Sheets, 159 Lateral Load Capacity of Drilled Shafts in Jointed Rock, 646

Lateral Loaded Pile Response in Liquetiable Soil, 618 Lateral Stiffness of Brick Masonry Infilled Plane Frames, 1187

Pile Response Adjacent to Braced Excavation, 616 Rotational Restraint of Pile Caps during Lateral Loading, 656

Summary of a Large- and Small-Scale Unreinforced Masonry Infill Test Program, 1249

Theoretical Elastic-Plastic Solution for Laterally Loaded Piles, 624

Lateral pressure

Pile response to Lateral Spreads: Centrifuge Modeling, 661

Reappraisal of Marston's Formula, 1367

Lateral stability

Lateral-Torsional Buckling of Stepped Beams, 1228 Simplified Trial Wedge Method for Soil Nailed Wall Analysis, 589

Laterals

Analytical Equation for Variation of Discharge in Drip Irrigation Laterals, 892

Laterites

Erosion Hazards Index for Lateritic Soils, 1528

Latin America

Bridge Construction in Guatemala: Linking Social Issues and Engineering, 1071

Hurricane Vulnerability in Latin America and the Caribbean: Normalized Damage and Loss Potentials, 1531

Lattices

Confinement-Shear Lattice Model for Concrete Damage in Tension and Compression: 1. Theory, 435

Laws

Frontage Roads: Assessment of Legal Issues, Design Decisions, Costs, Operations, and Land-Development Differences, 1312

Sharpening the Focus: Legal Context of Engineering Ethics, 1070

Layered soils

Centrifuge Modeling of Nonaqueous Phase Liquid Movement and Entrapment in Unsaturated Layered Soils, 595

Layered systems

Forced Vertical Vibration of Circular Plate in Multilayered Poroelastic Medium, 424

Modeling Membrane Action of Concrete Slabs in Composite Buildings in Fire. 1: Theoretical Development, 1190

Leachates

Biogeochemical Evaluation of Mechanisms Controlling CaCO₃₀, Precipitation in Landfill Leachate-Collection Systems, 529

By-Products in Earth Construction: Environmental Assessments, 548

- Detecting Landfill Leachate Contamination using Soil Electrical Properties, 1461
- Framework for Recycling of Wastes in Construction, 547
- Long-Term Landfill Primary and Secondary Leachate Production, 682
- Physical and Chemical Properties of Recycled Tire Shreds for Use in Construction, 551
- Relating Batch and Column Diffusion Coefficients for Leachable Contaminants in Particulate Waste Materials, 552

Leaching

- Bacterial Leaching of Metals from Tannery Sludge by Indigenous Sulphur-Oxidizing Bacteria—Effect of Sludge Solids Concentration, 503
- Carbonation of Municipal Solid Waste Incineration Fly Ash and the Impact on Metal Mobility, 493
- Comparative Study of Two Nitrogen Models, 864
- Evaluation of Leaching Tests for Cement Based Immobilization of Hazardous Compounds, 519
- Leaching Behavior of Lead, Chromium (III), and Zinc in Cement/Metal Oxides Systems, 505
- Mechanism Controlling Permeability Change in Clays due to Changes in Pore Fluid, 594
- Thermal Stabilization of Iron-Rich Sludge for High Strength Aggregates, 1030

Lead

- Evaluation of Leaching Tests for Cement Based Immobilization of Hazardous Compounds, 519
- Leaching Behavior of Lead, Chromium (HI), and Zinc in Cement/Metal Oxides Systems, 505
- Lead Removal from Acidic Solutions by Sorption on Cocoa Shells: Effect of Some Parameters, 525
- Mechanical Properties of Lead Alloys in Compression, 999

Leadership

- Cultivating the Next Crop of Leaders, 932
- Leadership and Communications in Civil Engineering: Past, Present, and Future, 930
- Managing and Leading: 52 Lessons Learned for Engineers, 1626

Leakage

- Efficacy of Genetic Algorithm to Investigate Small Scale Aquitard Leakage, 750
- Optimal Measurement Site Locations for Inverse Transient Analysis in Pipe Networks, 1423

Learning

- Combining Service Learning with Graduate Education, 1078
- Design of Highway Bridges: Natural Place for CBR, 144
- Implementing Sustainable Development through Problem-Based Learning: Pedagogy and Practice, 1079
- Neural Networks and Reinforcement Learning in Control of Water Systems, 1421
- Plug and Chug, Cram and Flush, 1060
- Prediction of Remaining Service Life of Bridge Decks using Machine Learning, 127
- Wrapper Methods for Inductive Learning: Example Application to Bridge Decks, 132

Least squares method

Efficient Least Squares Coordinate Transformation for an Arbitrary Number of Parameters, 1265 Inverse Algorithm for Tsunami Forecasts, 1434 Study of Earth Tides using Quartz Tiltmeter, 1263

Legal factors

- Guidelines for Forensic Engineering Practice, 1620
- Here Comes the Judge—Duties and Responsibilities of Design Proffessionals When Deciding Disputes, 1076
- Sharpening the Focus: Legal Context of Engineering Ethics, 1070
- Ten Commandments of Better Contracting: A Practical Guide to Adding Value to an Enterprise Through More Effective SMART Contracting, 1643
- Whistle-Blowing Engineer, 1082

Levees

- Determination of Critical Head in Soil Piping, 748
- Nonlinear Dynamic Properties of a Fibrous Organic Soil, 667

Leveling

- How Accurately Can We Determine Orthometric Height Differences from GPS and Geoid Data?, 1256
- Method for Forensic Analysis of Residential Floor-Elevation Data, 1047
- Monitoring Crustal Movements in West Anatolia by Precision Leveling, 1262

Liability

- Multistep Dispute Resolution in Design and Construction Industry, 1066
- Sharpening the Focus: Legal Context of Engineering Ethics, 1070
- Toxic Mold: Latest Construction Defect, 1075

Life cycle cost

- Effect of Bridge Deck Thickness on Properties and Behavior of Bridge Decks, 1502
- Feasibility of Rigidified Inflatable Structures for Housing, 57
- Financial Viability of Fiber-Reinforced Polymer (FRP) Bridges, 938
- Risk-Based Life-Cycle Costing of Infrastructure Rehabilitation and Construction Alternatives, 841

ife cycle

- Evaluation of Expected Life-Cycle Maintenance Cost of Deteriorating Structures, 1150
- Life Cycle Modeling of Corrosion Affected Concrete Structures—Initiation, 1032
- Life-Cycle Environmental Effects of an Office Building, 857
- Life-Cycle Modeling of Corrosion-Affected Concrete Structures: Propagation, 1158
- Life-Cycle Performance of Deteriorating Structures: Assessment, Design and Management, 1623
- Life-Cycle Reliability-Based Maintenance Cost Optimization of Deteriorating Structures with Emphasis on Bridges, 1165
- Multiple Limit States and Expected Failure Costs for Deteriorating Reinforced Concrete Bridges, 116
- Quantitative Assessment of Environmental Impacts on Life Cycle of Highways, 200
- Risk-Based Expenditure Allocation for Infrastructure Improvement, 115

Lift coefficients

Hydrodynamic Loading on River Bridges, 781

Lift coefficients

Rolling and Lifting Probabilities for Sediment Entrainment, 704

Lift slab construction

Engineering Considerations for Life-Slab Construction, 1614

Lifting

Interaction of Particles and Near-Wall Lift in Slurry Pipelines, 700

Light

Relationships among Urban Freeway Accidents, Traffic Flow, Weather, and Lighting Conditions, 1324

Light rail transit

Levels of Service for Stairway in Hong Kong Underground Stations, 1306

Lim

Stabilization of Electrical Arc Furnace Dust with Low-Grade MgO Prior to Landfill, 475

Limit analysis

Calculations of Bearing Capacity Factor d₁ using Numerical Limit Analyses, 623

Cap Model for Limit Analysis and Strengthening of Masonry Structures, 1218

Deformation Patterns of Reinforced Foundation Sand at Failure, 621

Dimensional Analysis of Reinforced Concrete Beams Subjected to Pure Torsion, 1239

Prediction of Undrained Sinkhole Collapse, 597

Simplified Trial Wedge Method for Soil Nailed Wall Analysis, 589

Three-Dimensional Analysis of Nonhomogeneous Slopes, 591

Three-Dimensional Lower Bound Solutions for Stability of Plate Anchors in Clay, 602

Limit equilibrium

Computation of Bearing Capacity Factor N,— Terzaghi's Mechanism, 23

New Approach to Limit Equilibrium and Reliability Analysis of Soil Nailed Walls, 26

Single Piles in Lateral Spreads: Field Bending Moment Evaluation, 662

Limit states

Assessment of Current Load Factors for Use in Geotechnical Load and Resistance Factor Design, 606

Multiple Limit States and Expected Failure Costs for Deteriorating Reinforced Concrete Bridges, 116

Reliability of Frame and Shear Wall Structural Systems. I: Static Loading, 1108

Reliability of Frame and Shear Wall Structural Systems. II: Dynamic Loading, 1109

Toward Load and Resistance Factor Design for Fiber-Reinforced Polymer Composite Structures, 1127

Updating Bridge Reliability Based on Bridge Management Systems Visual Inspection Results, 113

Linear programming

Bounds on System Reliability by Linear Programming, 351

Formulation of L₁ Norm Minimization in Gauss-Markov Models, 1261

Optimal Capital Structure Model for BOT Power Projects in Turkey, 208

2003 ASCE TRANSACTIONS

Plastic Limit Temperatures of Flexibly Connected Steel Frames: A Linear Programming Problem, 1092

Linear systems

State Space Formulation for Linear Viscoelastic Dynamic Systems with Memory, 362

Liners

Constitutive Behavior of Geosynthetic Interfaces, 10

Liquefaction

Centrifugal Modeling of Seismic Behavior of Large-Diameter Pipe in Liquefiable Soil, 685

Computational Model for Cyclic Mobility and Associated Shear Deformation, 688

Constitutive Model for Static Liquefaction, 25

Estimating Soil Liquefaction in Ice-Induced Vibration of Bucket Foundation, 120

Fully Coupled Analysis of Failure and Remediation of Lower San Fernando Dam, 611

High Overburden Stress Effects in Liquefaction Analyses, 683

Impact of River Channelization on Seismic Risk: Shelby County, Tennessee, 1518

Lateral Loaded Pile Response in Liquefiable Soil, 618 Liquefaction Centrifuge Modeling of Sands of

Different Permeability, 684
Liquefaction Potential Index: Field Assessment, 609

Liquefaction Resistance of Clean and Nonplastic Silty Sands Based on Cone Penetration Resistance, 671 Pile response to Lateral Spreads: Centrifuge Modeling,

661 Simplified Cone Penetration Test-Based Method for

Evaluating Liquefaction Resistance of Soils, 584 Single Piles in Lateral Spreads: Field Bending Moment Evaluation, 662

Yield Strength Ratio and Liquefaction Analysis of Slopes and Embankments, 647

Liquefied natural gas

Hydrodynamic Modeling of Coastal LNG Cooling Water Discharge, 278

Liquids

Knowledge-Based System on Optimum Design of Liquid Retaining Structures with Genetic Algorithms, 1212

Litigation

Multistep Dispute Resolution in Design and Construction Industry, 1066

Toxic Mold: Latest Construction Defect, 1075

Littoral drift

Longshore Sediment Transport Rates on a Microtidal Estuarine Beach, 1427

Live loads

Live-Load Distribution Factors for Concrete Box-Girder Bridges, 103

LRFD Orthotropic Plate Model for Live Load Moment in Filled Grid Decks, 73

Load and resistance factor design

Development of a Reliability-Based Design Framework for Transmission Line Structure Foundations, 653

Load and Resistance Factor Design of Timber Joints: International Practice and Future Direction, 3

Multiple Resistance Factor Design for Shallow Transmission Line Structure Foundations, 654 Toward Load and Resistance Factor Design for Fiber-Reinforced Polymer Composite Structures, 1127

Load distribution

Live-Load Distribution Factors for Concrete Box-Girder Bridges, 103

Load Distribution Factors in Simply Supported Skew Bridges, 99

Load-Sharing and Redistribution in a One-Story Woodframe Building, 1209

Assessment of Current Load Factors for Use in Geotechnical Load and Resistance Factor Design, 606

Load resistant design factor

Assessment of Current Load Factors for Use in Geotechnical Load and Resistance Factor Design, 606

Load tests

Behavior of Laterally Loaded Large-Section Barrettes,

Case History Evaluation of Laterally Loaded Piles, 596 Noncontract Photogrammetric Measurement of Vertical Bridge Deflection, 95

Plate Load Test on Fiber-Reinforced Soil, 669

Understanding Capacity Rating of Bridges from Load Tests, 1515

Load transfer

Behavior of Laterally Loaded Large-Section Barrettes. 639

Effect of Creep and Shrinkage on RC Frames with High Beam Stiffness, 1136

Performance of Tension and Compression Anchors in Weathered Soil, 690

Loading rate

Undrained Response of Clays to Varying Strain Rate, 605

Behavior of Plate Load Tests on Soil Layers Improved with Cement and Fiber, 587

Data Requirements for Load Estimation in Well-Mixed Tidal Channels, 534

Dynamic Behavior of Orthotropic Rectangular Plates under Moving Loads, 292

Dynamic Characteristics of Infinite and Finite Railways to Moving Loads, 390 Effect of Base Fixity on Buckling of Heavy Column

with End Load, 296 Elastic Stability and Second-Order Analysis of Three-

Dimensional Frames: Effects of Column Orientation, 417

Experimental Validation of Lagrange-Rayleigh-Ritz Modeling Technique for Mass Loaded Actively Controlled Panels, 41

Linear Stochastic Dynamical System under Uncertain Load: Inverse Reliability Analysis, 356

Minimum Design Loads for Buildings and Other Structures, 1627 Numerical Study of the Effect of Preloading on

Undrained Bearing Capacity, 12 Reappraisal of Marston's Formula, 1367

Constitutive Model for Concrete with Embedded Sets of Reinforcement, 363

Strain Localization in Sand: Plane Strain versus Triaxial Compression, 625

Locks

Mooring Model Coefficients for Barge Tows in a Navigation Lock, 1454

Long waves

Parameters Affecting the Performance of Wetting and Drying in a Two-Dimensional Finite Element Long Wave Hydrodynamic Model, 758

Baseline Determination in Construction Labor Productivity-Loss Claims, 957

Dielectric Properties of Asphalt Pavement, 1012

Louisiana

The Creeping Storm, 1569

Inspection of Luling Bridge Cable Stays: Case Study,

Low flow

Estimation of Sustainable Yield of Some Rivers in Trinidad, 803

Machinery

Paving Machine Improvments, 1339

Magnetic fields

Large-Deflection Deformation of Ferromagnetic Plates in Magnetic Fields, 311

Maintenance

Adaptive Optimization of Infrastructure Maintenance and Inspection Decisions under Performance Model Uncertainty, 854

Analytic Hierarchy Process Analyzes Risk of Operating Cross-Country Petroleum Pipelines in India,

Computer Assistance in Managing the Maintenance of Low-Slope Roofs, 150

Evaluation of Expected Life-Cycle Maintenance Cost of Deteriorating Structures, 1150 Framework Model for Asset Maintenance Manage-

ment. 1042 Friction Measurement on Cycleways using a Portable

Friction Tester, 119 Measures of Short-Term Effectiveness of Highway Pavement Maintenance, 1364

Performance, Cost, and Maintenance Requirements of Austin Sand Filters, 1402

Maintenance costs

Life-Cycle Reliability-Based Maintenance Cost Optimization of Deteriorating Structures with Emphasis on Bridges, 1165

Estimation of Minimum Working Capital for Construction Projects in Malaysia, 238

Management

Adding Value to Constructed Facilities: Facilities Management Hospitality Case Study, 1039

Designing Facilities Management Needs into Infra-structure Projects: Case from a Major Hospital, 1041

Framework for Undergraduate Engineering Management Studies, 1067

Integrated Resources Management Structure for Facilities Provision and Management, 1040

Lean Management of Environmental Consulting, 940

Linking Programming and Design with Facilities Management, 1036

Management

Natural Disaster Management in Iran during the 1990s—Need for a New Structure, 1375

Sustainability in Public Facilities: Analysis of Guidance Documents, 1037

Technical, Managerial, and Organizational CHanges in Adapting an E-Commerce Model in Civil Engineering Design and Consulting Services, 937

Management engineering

Comparative Evaluation of Analytical and Intuitive Decision-Making, 943

Engineering Information Classification System, 249

Management methods

How to Evaluate and Invest in Emerging A/E/C Technologies under Uncertainty, 199

Interface Management within Construction: In Particular, Building Facade, 198

Reengineering of Construction Management Process,

Management systems

Integrated Infrastructure Management Systems: Small Urban Area's Experience, 851

Supply and Demand System Approach to Development of Bridge Management Strategies, 853

Updating Bridge Reliability Based on Bridge Management Systems Visual Inspection Results, 113

Managers

Communication Patterns in Construction at Construction Manager Level, 262

The Construction Manager as a Leader, 918 Effective Construction Management, 917

Manufacturing

HKCONSIM: A Practical Simulation Solution to Planning Concrete Plant Operations in Hong Kong, 259

Prediction of Humidification Power in Textile-Spinning Mills using Functional and Neural Networks, 277

Manufacturing facilities

Integrated Development of Facilities Design and Services, 1038

Mapping

Generation of Digital Orthophotos from IKONOS Satellite Images, 1266

Geographic Information System Data for Supporting Feature Extraction from High-Resolution Aerial and Satellite Images, 1281

Mapping Root Zone Soil Moisture using Remotely Sensed Optical Imagery, 895

Maps

Particle Image Velocimetry System with Self-Organized Feature Map Algorithm, 407

Marine clays

Thermal Stabilization of Iron-Rich Sludge for High Strength Aggregates, 1030

Marine terminals

Constructing on the Inconstructible, 1559

Markov chains

Computer Assistance in Managing the Maintenance of Low-Slope Roofs, 150

Identification of Environmental Categories for Markovian Deterioration Models of Bridge Decks, 111

Subset Simulation and its Application to Seismic Risk Based on Dynamic Analysis, 382

2003 ASCE TRANSACTIONS

Markov process

Optimal Pump Scheduling in Water Supply Systems with Maximum Demand Charges, 1413

Marshes

Parameters Affecting the Performance of Wetting and Drying in a Two-Dimensional Finite Element Long Wave Hydrodynamic Model, 758

Masonr

Cap Model for Limit Analysis and Strengthening of Masonry Structures, 1218

Case Study of the Failure of a Cross Vault: Church of Holyrood Abbey, 66

Field Assessment of Unreinforced Masonry Walls Strengthened with Fiber Reinforced Polymer Laminates, 1185

Laboratory-Based Productivity Study on Alternative Masonry Systems, 225

Pseudo-Dynamic Testing of Unreinforced Masonry Building with Flexible Diaphragm, 1153

Summary of a Large- and Small-Scale Unreinforced Masonry Infill Test Program, 1249

Use of Composite Reinforcement to Strengthen Concrete and Air-Entrained Concrete Masonry Walls against Air Blast, 168

Mass transfer

Nonaqueous Phase Liquid Pool Dissolution as a Function of Average Pore Water Velocity, 536

Nonequilibrium Nonaqueous Phase Liquid Mass Transfer Model for Soil Vapor Extraction Systems, 532

Periodic Diffusional Mass Transfer near Sediment/ Water Interface: Theory, 495

Synchrotron Radiation for Detecting Movement of a Volatile Soil Liquid, 499

Massachusetts

Automated Sewer and Drainage Flushing Systems in Cambridge, Massachusetts, 719

The Big Dig's Big Dig, 1584

Case Study: Impact of Reservoir Stratification on Interflow Travel Time, 792

Decision Support System for Adaptive Water Supply Management, 1396

Four-Dimensional Modeling to Support Construction Planning of the Stata Center Project, 921

Incorporating Reservoir Transfer into Treatment Optimization Decisions, 486

Keeping It Rolling, 1583

A Retrofit for Long Lake, 1562

Urban Beaches: Balancing Public Rights and Private Development, 1646

Material properties

Analysis of Heterogeneous Composites Based on Moving-Window Techniques, 397

Can Less Be More?, 1598

Experimental Studies on the Properties of Constructional Steel at Elevated Temperatures, 1254

Frequency of Functionally Graded Plates with Three-Dimensional Asymptotic Approach, 381

General Strength Criterion for Geomaterials, 36

High Performance Materials in Bridges, 1622

Recent Advances in Materials Characterization and Modeling of Pavement Systems, 1633

- Rheological Characterization of Heterogeneous Materials with Evolving Properties, 991
- Short Term Testing of Hybrid T Beam Made of New Prepreg Material, 172

Materials

- Alternative Cap Materials for Evaluating the Compressive Strength of Controlled Low-Strength Materials, 1019
- Nonlinear Control Methodologies for Hysteresis in PZT Actuated On-Blade Elevons, 55
- Signal-Based Acoustic Emission Techniques in Civil Engineering, 993

Materials failure

Can Less Be More?, 1598

Materials tests

- Can Less Be More?, 1598
- Confinement-Shear Lattice Model for Concrete Damage in Tension and Compression: II: Computation and Validation, 436

Mathematical models

- Delaunay Triangulation Algorithms Useful for Multibeam Echosounding, 1267
- Dynamic Mathematical Modeling of an Isothermal Three-Phase Reactor: Model Development and Validation, 513
- Effect of Temporal Physical Correlation on Accuracy Estimation in GPS Relative Positioning, 1259
- Experimental Validation of Lagrange-Rayleigh-Ritz Modeling Technique for Mass Loaded Actively Controlled Panels, 41
- Fractionation and Segregation of Suspended Particles using Acoustic and Flow Fields, 492
- Groundwater Quality Modeling an Management Under Uncertainty, 1617
- Integrated Modeling of Anaerobic Fluidized Bed Bioreactor for Deicing Waste Treatment. I: Model Derivation, 454
- Integrated Modeling of Anaerobic Fluidized Bed Bioreactor for Deicing Waste Treatment. II: Simulation and Experimental Studies, 455
- Mathematical Modeling and Simulation of Dissolvable Hydrogels, 44
- Modeling and Control of Oxygen Transfer in High Purity Oxygen Activated Sludge Process, 489
- Modeling Approach to Periphyton and Nutrient Interaction in a Stream, 541
- Modeling Nitrogen Transport in Duckweed Pond for Secondary Treatment of Swine Wastewater, 530
- Modeling of Flow Resistance in Mangrove Swamp at Mouth of Tidal Keelung River, Taiwan, 1437 Modeling Tetrachloroethylene Decomposition in Pho-
- tosonolysis Reactor, 458
 Refined Solutions of Externally Induced Sloshing in
- Half-Full Spherical Containers, 429
 Robustness of River Basin Water Quality Models,

Mathematical programming

Nonlinear Elastoplastic Analysis of Semirigid Steel Frames at Elevated Temperature: MP Approach, 1148

Matrix methods

Matrix Analysis of Shear Lag and Shear Deformation in Thin-Walled Box Beams, 386

Using the Analytic Hierarchy Process for Selecting an Appropriate Fate and Transport Model for Risk-Based Decision-Making at Hazardous Waste Sites, 1476

Meandering streams

- Three-Dimensional CFD Modeling of Self-Forming Meandering Channel, 731
- Validation of a Three-Dimensional Numerical Code in the Simulation of Pseudo-Natural Meandering Flows, 770

Measurement

- Accuracy of Digital Image Correlation for Measuring Deformations in Transparent Media, 135
- Analytical Methods used to Measure Endocrine Disrupting Compounds in Water, 1486
- Atmospheric Oxygen Transfer during In Situ Oxygen Uptake Rate Measurements, 464
- Comparison of Laboratory and Theoretical Internal Solitary Wave Kinematics, 1451
- Damage Detection Based on Single-Input-Single-Output Measurements, 306
- Dynamic Measurements of In-Place Steel Floors to Assess Vibration Performance, 1049
- Field Measurements and Modeling of Two-Stage Biofilter that Treats Odorous Sulfur Air Emissions, 524
- Formulation of L₁ Norm Minimization in Gauss-Markov Models, 1261
- Freeway Traffic Flow Rate Measurement: Investigation into Impact of Measurement Time Interval, 1310
- Friction Measurement on Cycleways using a Portable Friction Tester, 119
- Idempotence and Orthogonality in Relation to Mixed Model Adjustments, 1278
- Improved Vehicle Reidentification and Travel Time Measurement on Congested Freeways, 1341
- Installation Stress in Prefabricated Vertical Drains, 659 Laboratory Measurements of Void Fraction and Turbu-
- lence in the Bore Region of Surf Zone Waves, 411 Measurement and Analysis of Distortion-Induced
- Fatigue in Multigirder Steel Bridges, 80 Measurement of Evaporation on Bare Soil and Estimating Surface Resistance, 577
- Measurements of Sediment Erosion and Transport with the Adjustable Shear Stress Erosion and Transport
- Measuring Productivity: An Industry Challenge, 1600
- Noncontract Photogrammetric Measurement of Vertical Bridge Deflection, 95
- Nondestructive Testing of Mortar Specimens using the Microwave Free-Space Method, 984 Numerical Analysis of Neutron Moisture Probe Meas-
- urements, 13 Optimal Layout of Displacement Measurements for
- Optimal Layout of Displacement Measurements for Parameter Identification Process in Geomechanics, 32
- State-Space Discretization of the Kalinin-Milyukov-Nash-Cascade in a Sample-Data System Framework for Streamflow Forecasting, 837
- Statistical Approach to Road Segmentation, 1319
- Study of Earth Tides using Quartz Tiltmeter, 1263
- Substructural Identification Method without Interface Measurement, 367

Measurement

- Turbulence Measurements of Dye Concentration and Effects of Secondary Flow on Distribution in Open Channel Flows, 732
- Vertical Velocity Variance in the Mixed Layer from Radar Wind Profilers, 833
- Water Level Measurement Locations for Coastal Aquifer Management, 1384

Measuring instruments

- Laser-Induced Fluorescence Measurements of a Turbulent Plume, 404
- Soil Water Content Monitoring using Electromagnetic Induction, 678

Mechanical properties

- Constructing Second-Order Models of Mechanical Systems from Identified State Space Realizations. Part I: Theoretical Discussions, 336
- Constructing Second-Order Models of Mechanical Systems from Identified State Space Realizations. Part II: Numerical Investigations, 337
- Hydration Mechanisms, Microstructure, and Mechanical Properties of Mortars Prepared with Mixed Binder Cement Slurry-Asphalt Emulsion, 966
- Mechanical Properties of Lead Alloys in Compression,
- Mechanical Stabilization of Cemented Soil—Fly Ash Mixtures with Recycled Plastic Strips, 553
- Method for Performing Accelerated Characterization of Viscoelastic Constitutive Behavior of Asphaltic Concrete, 1021
- Modeling Compression Behavior of Structured Geomaterials, 31

Mechanical systems, structural

Knowledge and Reasoning for MEP Coordination, 268

Mediation

Multistep Dispute Resolution in Design and Construction Industry, 1066

Membrane processes

Standardized Membrane Pore Size Characterization by Polyethylene Glycol Rejection, 9

Membrane

- Cracked Membrane Model: Finite Element Implementation, 1196
- Modeling Membrane Action of Concrete Slabs in Composite Buildings in Fire. 1: Theoretical Development, 1190
- Modeling Membrane Action of Concrete Slabs in Composite Buildings in Fire. II: Validations, 1191
- Nonlinear Response of Fluid-Filled Membrane in Gravity Waves, 364
- Use of an Instrumented Flat Dilatometer in Soft Varved Clay, 692

Memoirs of deceased members

- George Earl Battey, Jr. FASCE, 1649
- George Raymond Psomas, Jr., MASCE, 1650
- Heger, Frank, 1651
- James Eldon Ballinger, 1652
- Jesse Madison Reynolds, P.E., FASCE, 1653

Mercury

- Iodide-Enhanced Electrokinetic Remediation of Mercury-Contaminated Soils, 575
- Mercury-Contaminated Soil Remediation by Iodide and Electroreclamation, 494

2003 ASCE TRANSACTIONS

- Removal of Mercury from Low-Concentration Aqueous Streams using Chemical Reduction and Air Stripping, 539
- Stabilization/Solidification of High Mercury Wastes with Reactivated Carbon, 1465

Metals

- Analytical Prediction of Fatigue Crack Propagation in Metals, 357
- Bacterial Leaching of Metals from Tannery Sludge by Indigenous Sulphur-Oxidizing Bacteria—Effect of Sludge Solids Concentration, 503
- Carbonation of Municipal Solid Waste Incineration Fly Ash and the Impact on Metal Mobility, 493
- Iodide-Enhanced Electrokinetic Remediation of Mercury-Contaminated Soils, 575
- Laboratory Pilot Test of Chromium (III) Isolation from Acid Extract of Tannery Sludge, 1468
- Leaching Behavior of Lead, Chromium (III), and Zinc in Cement/Metal Oxides Systems, 505
- Lead Removal from Acidic Solutions by Sorption on Cocoa Shells: Effect of Some Parameters, 525
- Reconstructing Contaminant Deposition in a San Francisco Bay Marina, California, 522
- Removal of Metals and Radionuclides using Apatite and Other Natural Sorbents, 500
- Solidification/Stabilization of Hazardous Wastes Containing Metals and Organic Contaminants, 485
- Statistical Prediction of Atmospheric Corrosion from Atmospheric-Pollution Parameters, 1483
- Strength Curves for Metal Plates in Compression, 1225

Meteorology

- Weighted-Climate Parametric Hydrologist Forecasting,
- Wind Speeds in ASCE 7 Standard Peak-Gust Map: Assessment, 1125

Methane

- Biodegradation of Mixtures of Phenolic Compounds in an Upward-Flow Anaerobic Sludge Blanket Reactor,
- Biogeochemical Evaluation of Mechanisms Controlling CaCO_{xx}, Precipitation in Landfill Leachate-Collection Systems, 529
- Production of Soluble Microbial Products (SMP) in Anaerobic Chemostats under Nutrient Deficiency, 561

Methodology

- Analysis of Heterogeneous Composites Based on Moving-Window Techniques, 397
- Comparing Different Global Positioning System Data Processing Techniques for Modeling Residual Systematic Errors, 1276
- Design of Circular Urban Storm Sewer Systems using Multilinear Muskingum Flow Routing Method. 778
- Determination of Orthometric Height of NJI2 CORS Station, 1273
- First- and Higher-Order Correlation Detection using Wavelet Transforms, 305
- Global Congruency Test Methods for GPS Networks, 1270
- Improved Decomposition Solution to Green and Ampt Equation, 815
- Integrated Methodology for Design of Polluted Water Control System of Road Infrastructures for Environmental Protection, 1293

- Least Squares Fitting Method Based on Bivariate Nonuniform B-Spline and Its Applications in Surveying Engineering, 1272
- Nonlinear Control Methodologies for Hysteresis in PZT Actuated On-Blade Elevons, 55
- Novel Method of Excavation, 223
- Optimal Measurement Site Locations for Inverse Transient Analysis in Pipe Networks, 1423
- Predicting Accuracy of Early Cost Estimates using Factor Analysis and Multivariate Regression, 220
- Resolution of Construction Disputes: A Review of Current Methodologies, 936
- Simple, Practical Method for Determining Station Weights Using Thiessen Polygons and Isohyetal Maps, 823
- Thermochemomechanical Assessment of Ground Improvement by Jet Grouting in Tunneling, 387
- Unified Modeling Methodology for Construction Simulation, 11
- Use of the Asphalt Pavement Analyzer and Repeated Simple Shear Test at Constant Height to Augment Superpave Volumetric Mix Design, 1346
- Wavelet-Galerkin Method for Free Vibrations of Elastic Cable, 323

Mexico

- Nonlinear Model for Drought Forecasting Based on a Conjunction of Wavelet Transforms and Neural Networks, 835
- Super Structure, 1571

Micro piles

An Alternative Approach, 1573

Microbe

Production of Soluble Microbial Products (SMP) in Anaerobic Chemostats under Nutrient Deficiency, 561

Micromechanics

- Examination of Bulge Test for Determining Residual Stress, Young's Modulus, and Poisson's Ratio of 3C-SiC Thin Films, 43
- Integrated Microelectromechanical Gyroscopes, 45
 Micromechanical Modeling of Filament Wound
 Cement-Based Composites, 326

Microscopy

- Characteristics of Hyperconcentrated Sediment-Laden Flows, 442
- Crumb Rubber-Bitumen Interactions: Cold-Stage Optical Microscopy, 1011

Microstructure

- Continement-Shear Lattice Model for Concrete Damage in Tension and Compression: 1. Theory, 435
- Confinement-Shear Lattice Model for Concrete Damage in Tension and Compression: II: Computation and Validation, 436
- Disturbed State Model for Porous Saturated Materials, 24
- Hydration Mechanisms, Microstructure, and Mechanical Properties of Mortars Prepared with Mixed Binder Cement Slurry-Asphalt Emulsion, 966
- Smooth Convex Three-Dimensional Particle for the Discrete-Element Method, 341

Microwaves

Decontamination of Radionuclides from Concrete by Microwave Heating. I: Theory, 368

- Decontamination of Radionuclides from Concrete by Microwave Heating. II: Computations, 369
- Nondestructive Testing of Mortar Specimens using the Microwave Free-Space Method, 984

Mineral deposits

Instability of Hydrocarbon Films over Mineral Surfaces: Microscale Experimental Studies, 573

Mining

Prediction of Undrained Sinkhole Collapse, 597

Minnesota

- Reconstructed With Precision, 1548
- Shell of Steel, 1561

Minority groups

Implementing an Inclusive Curriculum for Women in Engineering Education, 1077

Mississippi

Peak Discharge Scaling in Small Hortonian Watershed, 806

Missour

- Field Assessment of Unreinforced Masonry Walls Strengthened with Fiber Reinforced Polymer Laminates, 1185
- Phase I Benchmark Control Problem for Seismic Response of Cable-Stayed Bridges, 1167

Mivino

- Analysis and Prediction of Transverse Mixing Coefficients in Natural Channels, 706
- Formulation of Mix Design for Asphaltic Incorporation of Hydrocarbon Contaminated Soil, 980
- Use of the Asphalt Pavement Analyzer and Repeated Simple Shear Test at Constant Height to Augment Superpave Volumetric Mix Design, 1346

Misturo

- Cementing Material from Calcium Carbide Residue-Rice Husk Ash, 1017
- Determination of Hydraulic Conductivity using Piezocone Penetration Test, 33
- Engineering Properties of Fiber Reinforced Cold Asphalt Mixes, 555
- Mechanical Stabilization of Cemented Soil—Fly Ash Mixtures with Recycled Plastic Strips, 553
- Study of Applying Macroevolutionary Genetic Programming to Concrete Strength Estimation, 156

Modal analysis

Dynamic Measurements of In-Place Steel Floors to Assess Vibration Performance, 1049

Model analysis

- Deflection of Metal Plate Connected Wood Trusses with Nontriangulated Openings, 1238
- Dynamic Behavior of Orthotropic Rectangular Plates under Moving Loads, 292
- Potential for Structural Failure in the Seismic Near Field, 384

Model studies

Influence of Pump Intake Location on Well Efficiency, 820

Model

- Abrasion-Porosity-Strength Model for Fly Ash Concrete, 1009
- Alternative Dispute Resolution in U.S. Public Works: Proposed Model, 1065

- Analytic Hierarchy Process Analyzes Risk of Operating Cross-Country Petroleum Pipelines in India, 1543
- Analytical Prediction of Fatigue Crack Propagation in Metals, 357
- Bioslurping Model for Assessing Light Hydrocarbon Recovery in Contaminated Unconfined Aquifer. I: Simulation Analysis, 1474
- Bioslurping Model for Assessing Light Hydrocarbon Recovery in Contaminated Unconfined Aquifer. II: Optimization Analysis, 1475
- Biparametric Models for Elastic Wedge Foundation, 293
- Bond between Carbon Fiber Reinforced Polymer Bars and Concrete. II: Computational Modeling, 175
- A CE-QUAL-W2 Model of Neuse Estuary for Total Maximum Daily Load Development, 1405
- Classification Approach for Reliability Analysis with Stochastic Finite-Element Modeling, 1195
- Coherent Structures in Flat-Bed Abutment Flow: Computational Fluid Dynamics Simulations and Experiments, 710
- Comparing Different Global Positioning System Data Processing Techniques for Modeling Residual Systematic Errors, 1276
- Comparison of Adaptive Network Based Fuzzy Inference Systems and B-Spline Neuro-Fuzzy Mode Choice Models, 139
- Comparison of Linear Scheduling Model and Repetitive Scheduling Method, 204
- Computational Analysis of Quality Reduction during Drying of Lumber due to Irrecoverable Deformation. I: Orthotropic Viscoelastic-Mechanosorptive-Plastic Material Model for the Transverse Plane of Wood, 391
- Constructing Second-Order Models of Mechanical Systems from Identified State Space Realizations. Part 1: Theoretical Discussions, 336
- Constructing Second-Order Models of Mechanical Systems from Identified State Space Realizations. Part II: Numerical Investigations, 337
- Creep Analysis of Axially Loaded Fiber Reinforced Polymer-Confined Concrete Columns, 422
- Creep Modeling in Excavation Analysis of a High Rock Slope, 658
- Damage Model Based Reinforced-Concrete Element, 1005
- Digital Elevation Model Based Volume Calculations using Topographical Data, 1264
- Discharge Formulas of Crump-De Gruyter Gate-Weir for Computer Simulation, 888
- Distributing Superelevation to Maximize Highway Design Consistency, 1298
- Drainage of Sloping Lands with Variable Recharge Model Validation and Applications, 890
- Dynamic Travel Time Prediction with Real-Time and Historic Data, 1356
- Dynamics of a Class of Horizontal Setback Buildings, 401
- Effect of Compressive Load on Uplift Capacity of Model Piles, 673
- Efficacy of Biofilms under Toxic Conditions, 512
- Evaluating Risk in Construction—Schedule Model (ERIC-S): Construction Schedule Risk Model, 256
- Experiments on a Full-Scale Building Model using Modified Sliding Mode Control, 325

- Extended Hyperbolic Model for Sand-to-Concrete Interfaces, 674
- Flood Forecasts for Urban Basin with Integrated Hydro-Meteorological Model, 799
- Florida DOT Project-Level Bridge Management Models, 110
- Forecasting Construction Staffing for Transportation Agencies, 952
- Formulation of L_1 Norm Minimization in Gauss-Markov Models, 1261
- Four-Dimensional Modeling to Support Construction Planning of the Stata Center Project, 921
- Four-Substrate Design Model for Single Sludge Predenitrification System, 488
- Fracture Model for Flexural Failure of Beams Retrofitted with CARDIFRC, 394
- Framework Model for Asset Maintenance Management, 1042
- Fuzzy Multicriteria Model for Postearthquake Land-Use Planning, 1524
- Geometric Modeling Systems for Construction Surveying of Highway Tunnels, 1279
- Hybrid Approach for Modeling Wet Weather Response in Wastewater Systems, 1426
- Idempotence and Orthogonality in Relation to Mixed Model Adjustments, 1278
- Identification of Simplified Models Using Adaptive Control Techniques, 1180
- Incremental Nonlinear Model for Predicting Pavement Serviceability, 1359
- Indicator Variables Model of Firm's Size-Profitability Relationship of Electrical Contractors using Financial and Economic Data, 219
- Integrated Approach to Total Maximum Daily Load Development for Neuse River Estuary using Bayesian Probability Network Model (Neu-BERN), 1404
- Integrated Electronic Commerce Model for the Construction Industry, 263
- Integrated Resources Management Structure for Facilities Provision and Management, 1040
- Jet Interaction in a Still Ambient Fluid, 729
- Kinematic Wave Model of Urban Pavement Rainfall-Runoff Subject to Traffic Loadings, 518
- Life Cycle Modeling of Corrosion Affected Concrete Structures—Initiation, 1032
- Life-Cycle Modeling of Corrosion-Affected Concrete Structures: Propagation, 1158
- Local Time Stepping for Modeling Open Channel Flows, 741
- Microplane Model for Reinforced-Concrete Planar Members in Tension-Compression, 1118
- Model for Nonlinear Thermal Effect on Pavement Warping Stresses, 1366
- Modeling and Control of Vinyl Chloride in Drinking Water Distribution Systems, 542
- Modeling Compression Behavior of Structured Geomaterials, 31
- Modeling Confinement Efficiency of Reinforced Concrete Columns with Rectilinear Transverse Steel using Artificial Neural Networks, 1160
- Modeling for Width Adjustment in Alluvial Rivers,
- Modeling Membrane Action of Concrete Slabs in Composite Buildings in Fire. I: Theoretical Development, 1190

- Modeling Membrane Action of Concrete Slabs in Composite Buildings in Fire. II: Validations, 1191
- Modeling of Damage in Cement-Based Materials Subjected to External Sulfate Attack. 1: Formulation, 997
- Modeling of Damage in Cement-Based Materials Subjected to External Sulfate Attack. II: Comparison with Experiments, 998
- Modeling of Moisture Behavior of Wood Planks in Nonvented Flat Roofs, 60
- Modeling Pd-Catalyzed Destruction of Chlorinated Ethenes in Groundwater, 459
- Modeling Reinforced-Concrete Beam-Column Joints Subjected to Cyclic Loading, 1251
- Modeling the Construction Management Process to Support Situational Simulations, 154
- Modeling Urbanization by Accessibility in Rapid-Growth Areas, 1370
- Mooring Model Coefficients for Barge Tows in a Navigation Lock, 1454
- Multiple-Porosity Model for the Transport of Reactive Contaminants in Fissured Soils with Nonequilibrium Partitioning, 30
- Neural Network Modeling of Confined Compressive Strength and Strain of Circular Concrete Columns, 1138
- Neuro-Fuzzy Logic Model for Freeway Work Zone Capacity Estimation, 1342
- Nonaqueous Phase Liquid Pool Dissolution as a Function of Average Pore Water Velocity, 536
- Non-Gaussian Air Gap Response Models for Floating Structures, 317
- Nonlinear Model for Drought Forecasting Based on a Conjunction of Wavelet Transforms and Neural Networks, 835
- Numerical Simulation of Bromate Formation during Ozonation of Bromide, 559
- Object-Oriented Model for Customer-Building Company Interaction in Mass Customization Environment, 233
- Optimal Capital Structure Model for BOT Power Projects in Turkey, 208
- Optimal Project Organizational Structure for Construction Management, 206
- Optimal Time Transfer in Bus Transit Route Network Design using a Genetic Algorithm, 1345
- Optimized Scheduling of Linear Projects, 272
- Parameter Estimation of the Transient Storage Model for Stream-Subsurface Exchange, 496
- Probabilistic Model for Cost Contingency, 230
- Process-Parameter-Interface Model for Design Management, 271
- Quantitative Model to Forecast Changes in Hurricane Vulnerability of Regional Building Inventory, 846
- Radial Basis Function Neural Network for Modeling Rating Curves, 816
- Radial Basis Function Neural Network for Work Zone Capacity and Queue Estimation, 1343 Rate Parameters for Methyl tert-Butyl Ether Biodegra-
- dation via a Radial Diffusion Model, 510 Surface-Based Transport Model for Mixed-Size Sedi-
- ment, 705

 Sustainability Indices of Thermal Electrical Power Production in Greece, 463
- Testing and Modeling Two Rockfill Materials, 598

- Three-Strut Model for Concrete Masonry-Infilled Steel Frames, 1103
- Toxicity Estimation of Phenolic Compounds by Bioluminescent Bacterium, 481
- Uniaxial Confinement Model for Normal- and High-Strength Concrete Columns, 1110
- Unified Modeling Methodology for Construction Simulation, 11
- Using the Analytic Hierarchy Process for Selecting an Appropriate Fate and Transport Model for Risk-Based Decision-Making at Hazardous Waste Sites, 1476
- World Water & Environmental Resources Congress 2003 and Related Symposia, 1648

Moisture

- Creep of Wood I-Joists Exposed to Abnormally High Moisture Conditions, 1497
- Modeling of Moisture Behavior of Wood Planks in Nonvented Flat Roofs, 60

Moment distribution

Effects of Velocity Head and Momentum Exchange on Critical Stable Sectional Area of Downstream Throttled Surge Tank, 283

Moment

- Lateral Buckling Strengths of Steel Angle Section Beams, 1161
- Probabilistic Basis for 2000 SAC Federal Emergency Management Agency Steel Moment Frame Guidelines, 6
- System Reliability Assessment by Method of Moments, 1215
- Theoretical Elastic-Plastic Solution for Laterally Loaded Piles, 624

Monitoring

- Analysis of Edge-Detection Techniques for Crack Identification in Bridges, 152
- Comparative Study of Two Bioassays for Applications in Influent Wastewater Toxicity Monitoring, 468
- Design of Piezoresistive MEMS-Based Accelerometer for Integration with Wireless Sensing Unit for Structural Monitoring, 49
- Detection of Wind-Induced Response by Wavelet Transformed GPS Solutions, 1271
- Dynamic Model for Monitoring Landslides with Emphasis on Underground Water in Trabzon Province, Northeastern Turkey, 1274
- Endocrine Disruptors as a New Regulatory Endpoint. 1487
- Fiber Optic Sensors for Bridge Monitoring, 112
- Long-Term Groundwater Monitoring: The State of the Art, 1625
- Recent Research in Nondestructive Evaluation of Civil Infrastructures, 996
- Soil Water Content Monitoring using Electromagnetic Induction, 678
- Stress Measurement and Defect Detection in Steel Strands by Guided Stress Waves, 987
- Time for Development of Internal Erosion and Piping in Embankment Dams, 608

Monorail

Riding High in Las Vegas, 1557

Monte Carlo method

Classification Approach for Reliability Analysis with Stochastic Finite-Element Modeling, 1195

Monte Carlo method

Coping with Uncertainty: A Case Study in Sediment Transport and Nutrient Load Analysis, 1411

Geographic Information Systems-Based Three-Dimensional Critical Slope Stability Analysis and Landslide Hazard Assessment, 687

Identification of Statistically Homogenous Soil Layers Using Modified Bartlett Statistics, 640

Inexact Multiphase Modeling System for the Management of Subsurface Contamination under Uncertainty. 1471

Probabilistic Solution to Stochastic Overland Flow Equation, 805

Mooring

Behavior of a Moored LNG Ship in Swell Waves, 1429 Deepwater Mooring Systems: Concepts, Design, Analysis, and Materials, 1612

Mooring Model Coefficients for Barge Tows in a Navigation Lock, 1454

Morphology

Effect of Floodwater Extraction on Mountain Stream Morphology, 784

ASR Potentials of Glass Aggregates in Water-Glass Activated Fly Ash and Portland Cement Mortars,

Determination of Early Age Mortar and Concrete Strength by Ultrasonic Wave Reflections, 990

Hydration Mechanisms, Microstructure, and Mechanical Properties of Mortars Prepared with Mixed Binder Cement Slurry-Asphalt Emulsion, 966

Nondestructive Testing of Mortar Specimens using the Microwave Free-Space Method, 984

Rheological Characterization of Heterogeneous Materials with Evolving Properties, 991

Use of Residential Construction Waste and Residues from Red Ceramic Industry in Alternative Mortars, 550

Elasticity of Space-Time: Basis of Newton's 2nd Law of Motion, 395

Mountain streams

Effect of Floodwater Extraction on Mountain Stream Morphology, 784

Modeling the Effect of Water Diversion on the Temperature of Mountain Streams, 533

Mountains

Sediment Concentration Distribution of Debris Flow,

Mud

Rheological Behavior of Fine and Large Particle Suspensions, 774

Multiple objective analysis

Multiobjective Sampling Design for Water Distribution Model Calibration, 1422

Optimal Fund-Allocation Analysis for Multidistrict Highway Agencies, 858

Municipal government

Improving the Effectiveness of the Engineering and Planning Functions of a Major Utility, 914

Municipal wastes

Composite Compressibility Model for Municipal Solid Waste, 614

2003 ASCE TRANSACTIONS

Excess Sludge Production in Membrane Bioreactors: A Theoretical Investigation, 477

Municipal Solid Waste Fly Ash as a Blended Cement Material, 1023

Relationship of Compressibility Parameters to Municipal Solid Waste Decomposition, 691

Municipal water

Modeling Water Pipe Breaks-Three Case Studies, 1391

Behavior of Roof Deck Diaphragms under Quasistatic Cyclic Loading, 1248

Lap Splice Steel Connections with Stainless Steel Nails, 1206

NASA

Decision Tree Assessment of Challenging Technologies for Mission to Europa, 51

Natural frequency

Natural Frequency of Railway Girder Bridges under Vehicle Loads, 93

Vibration of Thick and Thin Plates using a New Triangular Element, 415

Vibratory Characteristics of Timoshenko Beams with Arbitrary Number of Cracks, 427

Navigation

Mooring Model Coefficients for Barge Tows in a Navigation Lock, 1454

Nebraska

Occurrence of Endocrine-Disrupting and Other Waste-water Compounds during Water Treatment with Case Studies from Lincoln, Nebraska and Berlin, Germany, 1489

Negotiations

Multiagent System for Construction Claims Negotia-

Multistep Dispute Resolution in Design and Construction Industry, 1066

Neural Networks and Reinforcement Learning in Control of Water Systems, 1421

Network analysis

Rating and Reliability of Existing Bridges in a Network, 114

Neural networks

Artificial Neural Network Approach for Predicting Transient Water Levels in a Multilayered Groundwater System under Variable State, Pumping, and Climate Conditions, 838

Combining Dynamic Relaxation Method with Artificial Neural Networks to Enhance Simulation of Tensegrity Structures, 1149

Comparative Analysis of Event-Based Rainfall-Runoff Modeling Techniques—Deterministic, Statistical, and Artificial Neural Networks, 809

Comparison of Adaptive Network Based Fuzzy Inference Systems and B-Spline Neuro-Fuzzy Mode Choice Models, 139

Comparison of Four Modeling Techniques for Short-Term AADT Forecasting in Hong Kong, 1315

Demand Forecasting for Irrigation Water Distribution Systems, 904

Design of Highway Bridges: Natural Place for CBR,

Estimating Actual Evapotranspiration from Limited Climatic Data using Neural Computing Technique, 883

Evaluating and Comparing Bidding Optimization Effectiveness, 231

Evaluation of Neural Networks for Modeling Nitrate Concentrations in Rivers, 1425

Forecasting of Reference Evapotranspiration of Artificial Neural Networks, 908

Hybrid Approach for Modeling Wet Weather Response in Wastewater Systems, 1426

Modeling Continement Efficiency of Reinforced Concrete Columns with Rectilinear Transverse Steel using Artificial Neural Networks, 1160

Neural Network Modeling of Confined Compressive Strength and Strain of Circular Concrete Columns, 1138

Neural Networks and Reinforcement Learning in Control of Water Systems, 1421

Neural Networks for Decentralized Control of Cable-Stayed Bridge, 97

Nonlinear Model for Drought Forecasting Based on a Conjunction of Wavelet Transforms and Neural Networks, 835

Object-Oriented Evolutionary Fuzzy Neural Inference System for Construction Management, 250

Parameter Estimation in Groundwater Hydrology using Artificial Neural Networks, 155

Particle Image Velocimetry System with Self-Organized Feature Map Algorithm, 407

Prediction of Humidification Power in Textile-Spinning Mills using Functional and Neural Networks, 277 Radial Basis Function Neural Network for Modeling

Rating Curves, 816 Radial Basis Function Neural Network for Work Zone

Capacity and Queue Estimation, 1343
Reconstruction of the Building Infrastructure: Two

Performance Prediction Models, 843 Simplified Cone Penetration Test-Based Method for Evaluating Liquefaction Resistance of Soils, 584

Uncertainty of Weekly Nitrate-Nitrogen Forecasts using Artificial Neural Networks, 474

Nevada

Centrifugal Modeling of Seismic Behavior of Large-Diameter Pipe in Liquefiable Soil, 685

Regression Model for Daily Maximum Stream Temperature, 523

Riding High in Las Vegas, 1557

New Hampshire

Preparing for Takeoff, 1570

New Jersey

Restoring PATH, 1577

New York

Full-Scale Fatigue Tests of Steel Orthotropic Decks for the Williamsburg Bridge, 108

Holding Up, 1578

Longshore Sediment Transport Rates on a Microtidal Estuarine Beach, 1427

Pressure Relief, 1552

Rebuilding the Winter Garden, 1547

Rebuilding the World Trade Center, 1507

Restoring PATH, 1577

Simple Estimation of Prevalence of Hortonian Flow in New York City Watersheds, 822 Transformation, 1601

Upstream Effects of Cazenovia Creek Ice-Control Structure, 117

Wetlands at Work, 1550

New York City

Full-Scale Fatigue Tests of Steel Orthotropic Decks for the Williamsburg Bridge, 108

Holding Up, 1578

Rebuilding the Winter Garden, 1547

Rebuilding the World Trade Center, 1507

Restoring PATH, 1577

Simple Estimation of Prevalence of Hortonian Flow in New York City Watersheds, 822

New Zealand

Duration of Probable Maximum Precipitation on Lake Catchments: Alternative Analysis, 819

Niagara River

Niagara Canitlever, 71

Nitrates

Comparative Study of Two Nitrogen Models, 864 Evaluation of Neural Networks for Modeling Nitrate

Concentrations in Rivers, 1425
Performance Indices for Surface N Fertigation, 878
Reduction of Nitrate, Bromate, and Chlorate by Zero

Valent Iron (Fe^o), 444

Statistical Prediction of Atmospheric Corrosion from

Atmospheric-Pollution Parameters, 1483 Uncertainty of Weekly Nitrate-Nitrogen Forecasts using Artificial Neural Networks, 474

Nitrification

Influence of COD:N:P Ratio on Nitrogen and Phosphorus Removal in Fixed-Bed Filter, 476

Nitrification in Pure Oxygen Activated Sludge Systems, 457

Nitrogen Removal using Combined Ultracompact Biofilm Reactor-Packed Bed System, 448

Nitroge

Combined System for Biological Removal of Nitrogen and Carbon from a Fish Cannery Wastewater, 540

Comparative Study of Two Nitrogen Models, 864 Four-Substrate Design Model for Single Sludge

Predenitrification System, 488 Support of Total Maximum Daily Load Programs Using Spatially Referenced Regression Models,

Nitrogen oxide

Probabilistic Nonroad Mobile Source Emission Factors, 461

Noise

Advances in Ritz Vector Identification, 1194

Nonaqueous phase liquids

Centrifuge Modeling of Nonaqueous Phase Liquid Movement and Entrapment in Unsaturated Layered Soils, 595

Nonaqueous Phase Liquid Pool Dissolution as a Function of Average Pore Water Velocity, 536

Nondestructive tests

Application of Dynamic System Identification to Timber Bridges, 1096

Condition Assessment of a Deteriorated Cement Works, 1055 Damage Detection in Concrete by Fourier and Wavelet Analyses, 345

Determination of Early Age Mortar and Concrete Strength by Ultrasonic Wave Reflections, 990

Drilled Shaft Defects: Detection, and Effects on Capacity in Varved Clay, 689

Dynamic Stiffness Modulus for Pavement Subgrade Evaluation, 1335

Falling Weight Deflectometer for Estimating Subgrade Elastic Moduli, 1295 Location of Prestressing Steel Fractures in Concrete,

988 Low Strain Integrity Testing of Piles: Three-

Low Strain Integrity Testing of Piles: Three-Dimensional Effects, 681

Nondestructive Assessment of the Actual Compressive Strength of High-Strength Concrete, 1015

Nondestructive Crack Detection Algorithm for Full-Scale Bridges, 1217

Nondestructive Evaluation of Concrete Infrastructure with Ground Penetrating Radar, 995

Nondestructive Evaluation of Tuned-Mass-Damper-Type Vibration Absorbers using Vibration Signatures, 1028

Nondestructive Testing of Mortar Specimens using the Microwave Free-Space Method, 984

Optimization of Ground-Penetrating Radar Data to Predict Layer Thicknesses in Flexible Pavements, 1294 Preliminary Thermography Studies for Quality Control

of Concrete Structures Strengthened with Fiber-Reinforced Polymer Composites, 992

Recent Research in Nondestructive Evaluation of Civil Infrastructures, 996

Resistance Changes during Compression of Carbon Fiber Cement Composites, 1018

Nonlinear analysis

Confinement-Shear Lattice Model for Concrete Damage in Tension and Compression: I. Theory, 435

Confinement-Shear Lattice Model for Concrete Damage in Tension and Compression: II: Computation and Validation, 436

Evaluation of Damage and P-Δ Effects for Systems under Earthquake Excitation, 1184 Nonlinear Analysis as a Diagnostic Tool for the

Nonlinear Analysis as a Diagnostic Tool for the Strengthening of an Old Wooden Dome, 1223 Nonlinear Analysis of Axially Loaded Concrete-Filled

Tube Columns with Confinement Effect, 1213 Nonlinear Behavior of Heavy Class Steel Truss Bridg-

Nonlinear Creep Damage Model for Concrete under

Uniaxial Compression, 398 Nonlinear Elastoplastic Analysis of Semirigid Steel

Frames at Elevated Temperature: MP Approach, 1148 Nonlinear Thermal Analysis for Qing-Tibet Railway

Embankments in Cold Regions, 126 Relationships among Urban Freeway Accidents, Traffic Flow, Weather, and Lighting Conditions, 1324

Steel-Concrete Composite Plate Girders Subject to Shear Loading, 1204

Tendon Model for Nonlinear Analysis of Externally Prestressed Concrete Structures, 1094

Nonlinear programming

Estimating Characteristics of Rainfall and their Effects on Sampling Schemes: Case Study for Han River Basin, Korea, 814

Nonlinear response

Nonlinear Control Methodologies for Hysteresis in PZT Actuated On-Blade Elevons, 55

Nonlinear Response of Fluid-Filled Membrane in Gravity Waves, 364

Nonlinear systems

Adaptive Fuzzy Control for Nonlinear Building-Magnetorheological Damper System, 1171

Spectral Approach to Equivalent Statistical Quadratization and Cubicization Methods for Nonlinear Oscillators, 287

Updating Properties of Nonlinear Dynamical Systems with Uncertain Input, 285

Nonpoint pollution

Uncertainty of Weekly Nitrate-Nitrogen Forecasts using Artificial Neural Networks, 474

North Carolina

A CE-QUAL-W2 Model of Neuse Estuary for Total Maximum Daily Load Development, 1405

Comparison of Estuarine Water Quality Models for Total Maximum Daily Load Development in Neuse River Estuary, 1407

Detention Pond Design and Land Use Planning for Watershed Management, 1389

Development of Three-Dimensional Hydrodynamic and Water Quality Models to Support Total Maximum Daily Load Decision Process for the Neuse River Estuary, North Carolina, 1406

Electric Power Distribution System Performance in Carolina Hurricanes, 1522

Integrated Approach to Total Maximum Daily Load Development for Neuse River Estuary using Bayesian Probability Network Model (Neu-BERN), 1404

Interplay of Science and Stakeholder Values in Neuse River Total Maximum Daily Load Process, 1403

Modeling Nitrogen Transport in Duckweed Pond for Secondary Treatment of Swine Wastewater, 530

Projecting Building Inventory Changes and the Effect on Hurricane Risk, 1379

Quantitative Model to Forecast Changes in Hurricane Vulnerability of Regional Building Inventory, 846

Support of Total Maximum Daily Load Programs Using Spatially Referenced Regression Models, 1408

Vulnerability Indicators for Coastal Dunes, 1458

North Dakota

Projected Sulfate Redistribution as Impacted by Lake Level Stabilization Scenarios: Devils Lake, North Dakota, 1416

Numerical analysis

Behavior of Laterally Loaded Large-Section Barrettes, 639

Constructing Second-Order Models of Mechanical Systems from Identified State Space Realizations. Part II: Numerical Investigations, 337

Evaporation Theory for Deformable Soils, 677

Influence of Bond Slip on Crack Spacing in Numerical Modeling of Reinforced Concrete, 1234

Interpretation of Slope Movements Induced by Adjacent Large Landslide in Northern Italy, 1526

Local Time Stepping for Modeling Open Channel Flows, 741

Numerical Analysis of Multiple Discrete Cracks in Concrete Dams using Extended Fictitious Crack Model, 1117 Numerical Analysis of Neutron Moisture Probe Measurements, 13

Numerical Evaluation of Uniform Beam Modes, 439

Numerical Simulation on Damage and Failure of Brittle Rocks under Different Confining Pressures, 37

Numerical Study of Scale Effects on the Stiffness Modulus of Rock Masses, 28

Numerical Study of the Effect of Preloading on Undrained Bearing Capacity, 12

Pullout Behavior of Geogrid by Test and Numerical Analysis, 613

Time-Dependent Back Analysis of a Multianchored Pile Retaining Wall, 586

Uplift Behavior of Blade-Underreamed Anchors in Silty Sand, 632

Use of Jet Grouting to Limit Diaphragm Wall Displacement of a Deep Excavation, 592

Numerical models

Atmospheric Momentum Roughness Applied to Stage-Discharge Relationships in Flood Plains, 810

Characterization of Heterogeneous Soils using Surface Waves: Homogenization and Numerical Modeling, 17

Conjunctive-Management Models for Sustained Yield of Stream-Aquifer Systems, 1383

Dynamic Wave Study of Flow in Tidal Channel System of San Juan River, 749

Evaluation of Numerical Models of Flood and Tide Propagation in Channels, 4

Evaluation of Various Surface Irrigation Numerical Simulation Models, 882

Neural Networks for Decentralized Control of Cable-Stayed Bridge, 97

Nonstandard Tensile Coupon for Fiber-Reinforced Plastics, 973

Numerical Model for Wave Refraction-Diffraction near Pearl River Estuary, China, 1457 Numerical Modeling of Coupled Hygromechanical

Degradation of Cementitious Materials, 327 Numerical Modeling of Saline Intrusion in Salar de

Atacama, 802 Numerical Modeling of Wave Absorbers for Physical

Wave Tanks, 1428
Numerical Parametric Study of Piezocone Penetration

Test in Clays, 29

Numerical Simulation of Rain Scavenging on Large

Release of Water-Soluble Gases, 450
Percolation-Induced Heat Transfer in Deep Unsaturated Zones, 679

Performance of Tension and Compression Anchors in Weathered Soil, 690

Piecewise-Linear Model for Large Strain Radial Consolidation, 668

Reducing Numerical Diffusion Effects with Pycnocline Filter, 714

Shear Stress Distribution in Partially Filled Pipes, 765 Three-Dimensional CFD Modeling of Self-Forming Meandering Channel, 731

Three-Dimensional Modeling of Negatively Buoyant Flow in Diverging Channels, 789

Three-Dimensional Numerical Simulation of Compound Channel Flows, 760

Unbonded Posttensioned Concrete Bridge Piers. II: Seismic Analyses, 82 Validation of a Three-Dimensional Numerical Code in the Simulation of Pseudo-Natural Meandering Flows, 770

Wave Simulations in Ponce de Leon Inlet using Boussinesq Model, 1441

Nutrient loads

Coping with Uncertainty: A Case Study in Sediment Transport and Nutrient Load Analysis, 1411

Robustness of River Basin Water Quality Models, 1398

Nutrients

Development of Three-Dimensional Hydrodynamic and Water Quality Models to Support Total Maximum Daily Load Decision Process for the Neuse River Estuary, North Carolina, 1406

Modeling Approach to Periphyton and Nutrient Interaction in a Stream, 541

Oxidation-Reduction Potential as a Monitoring Tool in a Low Dissolved Oxygen Wastewater Treatment Process, 449

Production of Soluble Microbial Products (SMP) in Anaerobic Chemostats under Nutrient Deficiency, 561

Support of Total Maximum Daily Load Programs Using Spatially Referenced Regression Models, 1408

Object-oriented languages

Conceptual Building Design—Evolutionary Approach, 142

Object-Oriented Model for Customer-Building Company Interaction in Mass Customization Environment, 233

Occupational safety

Analysis of Occupational Injuries and Fatalities in Electrical Contracting Industry, 214

Comparative Performance Evaluation of Tele-Operated Pipe Laying, 201

Integrating ISO 9001 and OHSAS 18001 for Construction, 236

Safety as a Value in Engineering and Construction, 912

Odor control

Field Measurements and Modeling of Two-Stage Biofilter that Treats Odorous Sulfur Air Emissions, 524

Odors

Field Measurements and Modeling of Two-Stage Biotilter that Treats Odorous Sulfur Air Emissions, 524

Offshore drilling

Deepwater Mooring Systems: Concepts, Design, Analysis, and Materials, 1612

Offshore structures

Decommissioning Cost Functions in the Gulf of Mexico, 1460

Suction Caisson Capacity in Anisotropic, Purely Cohesive Soil, 34

Tentative New Formula for Maximum Horizontal Wave Forces Acting on Perforated Caisson, 1431

Ohio

A Culvert for Abram Creek, 1597

Flying High, 1599

Work of Art, 1576

Oil recovery

Behavior of Hydrocarbon Reservoir Sands and Sandstones, 676

Instability of Hydrocarbon Films over Mineral Surfaces: Microscale Experimental Studies, 573

Oil spills

Development and Application of Oil Spill Model for Singapore Coastal Waters, 746

Oils

Removal of Oil Grease and Chemical Oxygen Demand from Oily Automotive Wastewater by Adsorption after Chemical De-emulsification, 1478

Oklahoma

Grand Finale, 1588

One dimensional flow

Dynamic Wave Study of Flow in Tidal Channel System of San Juan River, 749

Free Overfall in Inverted Semicircular Channels, 739

Overfall in U-Shaped Channels, 324

Open channel flow

Discretization of Integral Equations Describing Flow in Nonprismatic Channels with Uneven Beds, 717

Dynamic Wave Study of Flow in Tidal Channel System of San Juan River, 749

Flow Conditions of Undular Hydraulic Jumps in Horizontal Rectangular Channels, 790

Flume for Teaching Spatially Varied Open-Channel Flow, 776

General Characteristics of Solutions to the Open-Channel Flow, Feedforward Control Problem, 873

Hydraulics of Bottom Rack Intake, 693

Hydraulics of Submerged Jet Subject to Change in Cohesive Bed Geometry, 696

Local Time Stepping for Modeling Open Channel Flows, 741

Omission of Critical Reynolds Number for Open Channel Flows in Many Textbooks, 1064

Open Channel Flow through Different Forms of Submerged Flexible Vegetation, 780 Response of Velocity and Turbulence to Sudden

Change of Bed Roughness in Open-Channel Flow, 695

Treatment of Natural Geometry in Finite Volume River Flow Computations, 733

Turbulence Measurements of Dye Concentration and Effects of Secondary Flow on Distribution in Open Channel Flows, 732

Open channels

Direct Equations for Hydraulic Jump Elements in Rectangular Horizontal Channel, 891

Free Overfall in Inverted Semicircular Channels, 739 Overfall in U-Shaped Channels, 324

Quasi-Theoretical End-Depth-Discharge Relationship for Rectangular Channels, 874

Turbulent Flow over and within a Porous Bed, 767

Optimization

Adaptive Optimization of Infrastructure Maintenance and Inspection Decisions under Performance Model Uncertainty, 854

Ant Colony Optimization for Design of Water Distribution Systems, 1399 Bioslurping Model for Assessing Light Hydrocarbon Recovery in Contaminated Unconfined Aquifer. 1: Simulation Analysis, 1474

Bioslurping Model for Assessing Light Hydrocarbon Recovery in Contaminated Unconfined Aquifer. II: Optimization Analysis, 1475

Conceptual Building Design—Evolutionary Approach, 142

Design of Amplified Structural Damping using Optimal Considerations, 1224

Dispersion Coefficient of Streams from Tracer Experiment Data, 506

Dynamic Optimal Unit Commitment and Loading in Hydropower Systems, 1415

Economic-Engineering Optimization for California Water Management, 1395

Evaluating and Comparing Bidding Optimization Effectiveness, 231

Feasibility and Optimization of Rigidified Inflatable Structures for Housing, 1232

Flexural Design of Reinforced Concrete Frames by Genetic Algorithm, 1159

Form Finding of Sparse Structures with Continuum Topology Optimization, 1253

Genetic Algorithms in Competitive Environments, 141 Genetic Optimization for Dynamic Project Control, 242

Identification of Environmental Categories for Markovian Deterioration Models of Bridge Decks, 111

Incorporating Reservoir Transfer into Treatment Optimization Decisions, 486

Integrated Hydrologic-Agronomic-Economic Model for River Basin Management, 1380

Integrated Simulation-Optimization Approach for Real-Time Dynamic Modeling and Process Control of Surfactant-Enhanced Remediation at Petroleum-Contaminated Sites, 1472

Internet-Based Information Management for Production Builders, 922

Liquid Volume Fluxes in Stratified Multiphase Plumes, 786

Multicriteria Optimization for Infectious Medical Waste Collection System Planning, 1470

Multiobjective Risk Analysis and Optimization of Regional Hazardous Waste Management System, 1469

Object-Oriented Modeling of Structural Analysis and Design with Application to Damping Device Configuration, 138

Optimal Design and Operation of Irrigation Pumping Stations, 875

Optimal Sizing of On-Farm Reservoirs for Supplemental Irrigation, 872

Optimization of Cable Tensioning in Cable-Stayed Bridges, 85

Optimization of Reservoir Management and Operation with Hedging Rules, 1388

Optimization of Water Distribution Network Design using the Shuffled Frog Leaping Algorithm, 1400

Optimized Scheduling of Linear Projects, 272

Optimizing Urban Water Supply Headworks using Probabilistic Search Methods, 1414

Proposed Methodology of Optimizing Transitioning between Time-of-Day Timing Plans, 1330

Storage Coefficient and Transmissivity from Residual Drawdowns, 759

- Supply and Demand System Approach to Development of Bridge Management Strategies, 853
- Tuned Mass Dampers for Dual-Mode Buffeting Control of Bridges, 98

Optimization models

- Freeway Work Zone Traffic Delay and Cost Optimization Model, 1311
- Integrated Infrastructure Management Systems: Small Urban Area's Experience, 851
- Optimal Design of Multidiameter, Multioutlet Pipelines, 1401
- Optimal Fund-Allocation Analysis for Multidistrict Highway Agencies, 858
- Optimization of Large-Scale Hydropower System Operations, 1397

Orbits

Characterizing Debris Clouds Created in Oblique Orbital Debris Particle Impact, 56

Oregon

Determining Appropriate Fatigue Inspection Intervals for Steel Bridge Members, 78

Organic compounds

- Biological Wastewater Treatment and Estrogenic Endocrine Disrupting Compounds: Importance of Colloid Organic Carbon, 1492
- Electrochemical Pretreatment of Wastewater from Color Photograph Processing Unit, 567
- Occurrence of Endocrine-Disrupting and Other Wastewater Compounds during Water Treatment with Case Studies from Lincoln, Nebraska and Berlin, Germany, 1489
- Regional Analysis of Nonmethane Volatile Organic Compounds in the Lower Troposphere of the Southeast United States, 570

Organic matter

- Complex Dielectric Permittivity of Soil-Organic Mixtures (20 MHz-1.3 GHz), 483
- Degradation of Drinking Water Treatment Plant Infrastructure from Enhanced Coagulation, 856
- Modeling Formation of Natural Organic Matter Fouling Layers on Ultrafiltration Membranes, 446
- Modeling Temperature Effects on Decomposition, 576
- Modeling the Erosion of Mixtures of Organic and Granular In-Sewer Sediments, 725
- Modeling Uncoupled Solute Transport in Natural Organic Matter Size Fractionation by Ultrafiltration, 447
- Solidification/Stabilization of Hazardous Wastes Containing Metals and Organic Contaminants, 485

Organizations

- Scorecard Approach to Benchmarking Organizational Safety Culture in Construction, 207
- Strategic Management: Consideration of Paradoxes, Processes, and Associated Concepts as Applied to Construction, 960
- Team Effectiveness Coaching: An Innovative Approach for Supporting Teams in Complex Systems, 911

Orthophotos

Generation of Digital Orthophotos from IKONOS Satellite Images, 1266

Orthotropism

- Full-Scale Fatigue Tests of Steel Orthotropic Decks for the Williamsburg Bridge, 108
- LRFD Orthotropic Plate Model for Live Load Moment in Filled Grid Decks, 73
- Spline Semidiscretization Analysis for Orthotropic Plates and Shells, 290

Oscillations

- Control of Wind-Induced Self-Excited Oscillations by Transfer of Internal Energy to Higher Modes of Vibration. I: Analysis in Two Degrees of Freedom, 330
- Control of Wind-Induced Self-Excited Oscillations by Transfer of Internal Energy to Higher Modes of Vibration. II: Application to Taut Cables, 340
- Discretization of Integral Equations Describing Flow in Nonprismatic Channels with Uneven Beds, 717
- Experimental Study of a Horizontal Jet in a Wavy Environment, 406

Oscillators

Spectral Approach to Equivalent Statistical Quadratization and Cubicization Methods for Nonlinear Oscillators, 287

Overconsolidation

Undrained Response of Clays to Varying Strain Rate, 605

Overflow

- The Case for Cleaning, 1546
- Hydraulic Performance Index of a Sewer Network, 747

Overland flow

- Modeling Event-Based Temporal Variability of Flow Resistance Coefficient, 829
- Overland Water Flow and Solute Transport: Model Development and Field-Data Analysis, 867
- Probabilistic Solution to Stochastic Overland Flow Equation, 805

Overtopping

- Performance of Coastal Structures against Sequences of Hurricanes, 1452
- Statistical Modeling of Overtopping for Extreme Waves on Fixed Deck, 1445

Owner

- Conflicts between Owner and Contractors: Proposed Intervention Process, 953
- Workforce Demographics among Project Engineering Professionals—Crisis Ahead?, 959

Oxidation

- One-Step Ambient Temperature Ferrite Process for Treatment of Acid Mine Drainage Waters, 460
- Reduction of Fulvic Acid in Drinking Water by Ferrate,

Oxygen

- Atmospheric Oxygen Transfer during In Situ Oxygen Uptake Rate Measurements, 464
- Dissolved Oxygen-State Titration Respirometry: Principle of Operation and Validation, 515
- Effects of Oxygen on Pyrolysis Kinetics of Tetra Pack,
- Modeling and Control of Oxygen Transfer in High Purity Oxygen Activated Sludge Process, 489

Oxygen demand

Oxygen demand

Periodic Diffusional Mass Transfer near Sediment/ Water Interface: Theory, 495

Oxygen transfer

Modeling and Control of Oxygen Transfer in High Purity Oxygen Activated Sludge Process, 489

Oxygenation

Anaerobic Treatment of High Sulfate Wastewater with Oxygenation to Control Sulfide Toxicity, 571

Regional Analysis of Nonmethane Volatile Organic Compounds in the Lower Troposphere of the Southeast United States, 570

Control of Total Chloro-s-Triazines in Conventional Drinking Water Treatment Plants, 1491

Numerical Simulation of Bromate Formation during Ozonation of Bromide, 559

Removal of Antibiotics from Surface and Distilled Water in Conventional Water Treatment Processes, 8

Secondary Benefits of Aquifer Storage and Recovery: Disinfection By-Product Control, 490

Painting

Thermal Performance Analysis of Highly Reflective Coating on Residences in Hot and Arid Climates.

Pakistan

Hydraulically Efficient Power-Law Channels, 861 System Dynamics Approach to Exploring Performance Enhancement in a Construction Organization, 257

Durability Gap Analysis for Fiber-Reinforced Polymer Composites in Civil Infrastructure, 182

Dynamic Stability of Laminated Composite Curved Panels with Cutouts, 416

Experimental Validation of Lagrange-Rayleigh-Ritz Modeling Technique for Mass Loaded Actively Controlled Panels, 41

Models for Concentrated Load Performance Assess-ment of Isotropic Wood Floor Sheathing, 1188

New Design Rule for Intermediate Transverse Stiffeners Attached on Web Panels, 1243

Postbuckling of Pressure-Loaded Functionally Graded Cylindrical Panels in Thermal Environments, 330

Wave Propagation in Orthogonally Supported Periodic Curved Panels, 322

Parallel processing

Parallel Processing Techniques in Structural Engineering Applications, 1252

Parameters

Aquifer Response to Linearly Varying Stream Stage,

Efficient Least Squares Coordinate Transformation for an Arbitrary Number of Parameters, 1265

Entropy-Based Parameter Estimation for Kappa Distribution, 808

Estimating Characteristics of Rainfall and their Effects on Sampling Schemes: Case Study for Han River Basin, Korea, 814

Estimation of Aquifer Parameters from Pumping Test Data by Genetic Algorithm Optimization Technique,

2003 ASCE TRANSACTIONS

Nonlinear Analysis of Axially Loaded Concrete-Filled Tube Columns with Confinement Effect, 1213

Optimal Layout of Displacement Measurements for Parameter Identification Process in Geomechanics,

Parameter Estimation in Groundwater Hydrology using Artificial Neural Networks, 155

Prepacked Grouting Process in Concrete Construction.

Process-Parameter-Interface Model for Design Management, 271

Simplified Two-Parameter Gamma Distribution for Derivation of Synthetic Unit Hydrograph, 825

Simultaneous Zonation and Calibration of Pipe Network Parameters, 734

Weighted-Climate Parametric Hydrologist Forecasting, 817

Parking facilities

Preparing for Takeoff, 1570

Thermal Movements in Concrete: Case Study of Multistory Underground Car Park, 1026

Shell of Steel, 1561

Transforming Crissy Field, 1553

Partially saturated soils

Centrifuge Modeling of Nonaqueous Phase Liquid Movement and Entrapment in Unsaturated Layered

Particle distribution

Confinement-Shear Lattice Model for Concrete Damage in Tension and Compression: I. Theory, 435

Continement-Shear Lattice Model for Concrete Damage in Tension and Compression: II: Computation and Validation, 436

Particle full velocity

Characteristics of Hyperconcentrated Sediment-Laden Flows, 442

Particle interactions

Continement-Shear Lattice Model for Concrete Damage in Tension and Compression: II: Computation and Validation, 436

Particle motion Particle Densimetric Froude Number for Estimating

Sphere Drag and Settling Velocity Revisited, 469

Particle size

Bedload Transport in Gravel-Bed Streams with Unimodal Sediment, 785

Goodbye, Hazen; Hello, Kozeny-Carman, 680

Particle size distribution

Sediment Transport, 738

Goodbye, Hazen; Hello, Kozeny-Carman, 680

Modeling Uncoupled Solute Transport in Natural Organic Matter Size Fractionation by Ultrafiltration,

Particle Size Distribution of Lunar Soil, 670

Particles

Effects of the Erosion and Transport of Fine Particles due to Seepage Flow, 22

Fluid-Particle Interactions and Resuspension in Simple Shear Flow, 794

Fractionation and Segregation of Suspended Particles using Acoustic and Flow Fields, 492

Nanotechnology Takes Roots, 1567

Particulate media

Modified Shear Spring Formulation for Discontinuous Deformation Analysis of Particulate Media, 374

Partnerships

Conflicts between Owner and Contractors: Proposed Intervention Process, 953

Partnering in Construction: Critical Study of Problems for Implementation, 954

Passengers

Airport Choice, Leakage, and Experience in Single-Airport Regions, 1308

Effect of Lane Width on Capacity under Mixed Traffic Conditions in India, 1301

Passive control

Applications of Some Semiactive Control Systems to Benchmark Cable-Stayed Bridge, 1169

"Convexifying" Linear Matrix Inequality Methods for Integrating Structure and Control Design, 1179

Pathogens

Bacteriophages MS2 and PRD1 in Turfgrass by Subsurface Drip Irrigation, 543

Eutrophication and Pathogen Abatement in the San Juan Bay Estuary, 480

Pavement deflections

Comparative Analysis of using AASHTO and WES-DEF Approaches in Back-Calculation of Pavement Layer Moduli, 1322

Pavement design

Falling Weight Deflectometer for Estimating Subgrade Elastic Moduli, 1295

Long-Term Performance of Stone Interlayer Pavement, 1297

Pavement deterioration

Measures of Short-Term Effectiveness of Highway Pavement Maintenance, 1364

Pavement joints

Effects of Excessive Pavement Joint Opening and Freezing on Sealants, 1336

Pavement management

Innovative Pavement Management and Planning System for Road Network of Portugal, 848

Measures of Short-Term Effectiveness of Highway Pavement Maintenance, 1364

Optimal Fund-Allocation Analysis for Multidistrict Highway Agencies, 858

Statistical Approach to Road Segmentation, 1319

Pavements

Clogging Evaluation of Permeable Bases, 1320

Dynamic Stiffness Modulus for Pavement Subgrade Evaluation, 1335

Effectiveness of Preventative Maintenance Treatments using Fourteen SPS-3 Sites in Texas, 1050

Evaluation of FWD Data for Determination of Layer Moduli of Pavements, 962

Factors Influencing the Strength of Cement Fly Ash Base Courses, 1348

Fatigue Behavior of a Pavement Foundation with Recycled Aggregate and Waste HDPE Strips, 638 Finite-Element Modeling of Skid Resistance Test, 1321 Forensic Evaluation of Premature Failures of Texas Specific Pavement Study-1 Sections, 1043

Incremental Nonlinear Model for Predicting Pavement Serviceability, 1359

Influence of Portland Cement Type on Unconfined Compressive Strength and Linear Expansion of Cement-Stabilized Phosphogypsum, 556

Pavement Response and Rutting for Full Scale and Scaled APT, 1337

Proof and Comments on Extensively used Assumption in PCC Pavement Analysis and Evaluation, 1309

Real-Time Image Thresholding Based on Sample Space Reduction and Interpolation Approach, 153

Risk-Based Life-Cycle Costing of Infrastructure Rehabilitation and Construction Alternatives, 841

PCB

Amphoteric Effect of Humic Acids in Surfactant-Aided Photolysis of Polychlorobiphenyls, 528

Solidification/Stabilization of Hazardous Wastes Containing Metals and Organic Contaminants, 485

PCE

Investigation of Fluorescent Dyes as Partitioning Tracers for Subsurface Nonaqueous Phase Liquid (NAPL) Characterization, 531

Modeling Tetrachloroethylene Decomposition in Photosonolysis Reactor, 458

PCP

Use of an Anaerobic Sludge Digestion Process to Treat Pentachlorophenol-(PCP-) Contaminated Soil, 572

Peak flow

Estimating Instantaneous Peak Flow from Mean Daily Flow Data, 840

Penetration

Perforation Thickness and Ballistic Limit of Concrete Target Subjected to Rigid Projectile Impact, 400

Vertical Penetration of Double-Diffusive Water Plumes Discharged Vertically Downward, 752

Penetration resistance

Liquefaction Resistance of Clean and Nonplastic Silty Sands Based on Cone Penetration Resistance, 671

Penetration tests

Determination of Hydraulic Conductivity using Piezocone Penetration Test, 33

Numerical Parametric Study of Piezocone Penetration Test in Clays, 29

Pennsylvania

Assessing Extrajurisdictional and Areawide Impacts of Clustered Brownfield Developments, 1369

An Unconventional Approach, 1594

Percolation

Percolation-Induced Heat Transfer in Deep Unsaturated Zones, 679

Perforating

Perforation Thickness and Ballistic Limit of Concrete Target Subjected to Rigid Projectile Impact, 400

Performance

Performance, Cost, and Maintenance Requirements of Austin Sand Filters, 1402

System Dynamics Approach to Exploring Performance Enhancement in a Construction Organization, 257

Performance characteristics

Hydrodynamic Performance Characteristics of Quadrant Front-Face Pile-Supported Breakwater, 1430

Performance evaluation

Can Labor Inputs be Measured and Controlled Automatically?, 247

Comparative Performance Evaluation of Tele-Operated Pipe Laying, 201

Damage Spectra: Characteristics and Applications to Seismic Risk Reduction, 1214

In-Service Performance Evaluation of Bullnose Median Barriers in Iowa, 1291

Long-Term Performance of Stone Interlayer Pavement, 1297

Management's Perception of Key Performance Indicators for Construction, 213

Night Irrigation Reduction for Water Saving in Medium-Sized Systems, 871

Performance Evaluation of Reinforced Concrete Bridge Columns Wrapped with Fiber Reinforced Polymers. 166

Simulation Analysis for Midterm Yard Planning in Container Terminal, 1447

Permafrost

Enlarged Base (Belled) Piles for Use in Ice or Ice-Rich Permafrost, 121

Frozen Ground Engineering, 1616

Nonlinear Thermal Analysis for Qing-Tibet Railway Embankments in Cold Regions, 126

Passively Cooled Railway Embankments for Use in Permafrost Areas, 123

Study of Methods to Control Frost Action in Cold Regions Tunnels, 124

Permeability

Clogging Evaluation of Permeable Bases, 1320

Compressibility and Permeability Correlations for Fine-Grained Dredged Materials, 1448

Consolidation of Clays for Variable Permeability and Compressibility, 675

Correlation of Rheological Properties to Durability and Strength of Hardened Concrete, 1007

Goodbye, Hazen; Hello, Kozeny-Carman, 680

Liquefaction Centrifuge Modeling of Sands of Different Permeability, 684

Mechanism Controlling Permeability Change in Clays due to Changes in Pore Fluid, 594

Permeation of High Performance Concrete, 970

Prepacked Grouting Process in Concrete Construction, 1029

Personnel management

Fostering Innovation and Entrepreneurialism in a Value-Driven Organization, 933

Integrated Electronic Commerce Model for the Construction Industry, 263

Managing Employee Life Cycles to Improve Labor Retention, 913

Role of Workforce Management in Bridge Superstructure Labor Productivity, 939

Team Effectiveness Coaching: An Innovative Approach for Supporting Teams in Complex Systems, 911

Perturbation

Dean Equations Extended to a Rotating Helical Pipe Flow, 373

Modal Perturbation Method and its Applications in Structural Systems, 385

Porm

Atico, Peru Mw 8.4 Earthquake of June 23, 2001, 1608 High-Profile Tunneling, 1580

Petrochemicals

Improving Seismic Design Efficiency of Petrochemical Facilities, 1505

Petroleum

Aerobic Biodegradation of Methyl Tert-Butyl Ether in Gasoline-Contaminated Aquifer Sediments, 520

Inexact Multiphase Modeling System for the Management of Subsurface Contamination under Uncertainty, 1471

Integrated Subsurface Modeling and Risk Assessment of Petroleum-Contaminated Sites in Western Canada, 544

Phenol

Biodegradation of Mixtures of Phenolic Compounds in an Upward-Flow Anaerobic Sludge Blanket Reactor, 560

Phosphate

Removal of Metals and Radionuclides using Apatite and Other Natural Sorbents, 500

Phosphoric acid

Determination of Optimum Ingredients for Phosphogypsum Composite Stability under Marine Conditions-Response Surface Analysis with Process Variables, 484

Phosphorus

Consideration of Variability and Uncertainty in Phosphorus Total Maximum Daily Loads for Lakes, 1410 Influence of COD:N:P Ratio on Nitrogen and Phosphorus Removal in Fixed-Bed Filter, 476

Photogrammetry

Noncontract Photogrammetric Measurement of Vertical Bridge Deflection, 95

Piers

Inspection and Process of Tension of Cables of General Rafael Urdaneta Bridge, 96

Measurements of Water Surface Profile and Velocity Field at a Circular Pier, 338

Pile caps

Pile response to Lateral Spreads: Centrifuge Modeling, 661

Rotational Restraint of Pile Caps during Lateral Loading, 656

Pile driving

Behavior of Open- and Closed-Ended Piles Driven into Sands, 607

Physical Properties of Plywood and Waferboard as Pile Cushion Materials, 615

Pile foundations

An Alternative Approach, 1573

Enlarged Base (Belled) Piles for Use in Ice or Ice-Rich Permafrost, 121

Single Piles in Lateral Spreads: Field Bending Moment Evaluation, 662

Pile groups

Behavior of Pile Groups Subject to Excavation-Induced Soil Movement, 583

Pile response to Lateral Spreads: Centrifuge Modeling, 661

Rotational Restraint of Pile Caps during Lateral Loading, 656

Pile load tests

Behavior of Open- and Closed-Ended Piles Driven into Sands, 607

Determination of Bearing Capacity of Open-Ended Piles in Sand, 582

Piles

Behavior of Laterally Loaded Large-Section Barrettes, 639

Case History Evaluation of Laterally Loaded Piles, 596 Enlarged Base (Belled) Piles for Use in Ice or Ice-Rich Permafrost, 121

Evaluation of Pile Diameter Effect on Initial Modulus of Subgrade Reaction, 601

Hydrodynamic Performance Characteristics of Quadrant Front-Face Pile-Supported Breakwater, 1430

Lateral Loaded Pile Response in Liquefiable Soil, 618 Low Strain Integrity Testing of Piles: Three-Dimensional Effects, 681

Pile Response Adjacent to Braced Excavation, 616

Pile response to Lateral Spreads: Centrifuge Modeling, 661

Structural Analysis of Combined Footing on Piles, 1494

Theoretical Elastic-Plastic Solution for Laterally Loaded Piles, 624

Pipe design

Hydraulic Design of Large-Diameter Pipes, 779

Pipe flow

Analytical Solution for Fluid-Structure Interaction in Liquid-Filled Pipes Subjected to Impact-Induced Water Hammer, 432

Dean Equations Extended to a Rotating Helical Pipe Flow, 373

Efficient Quasi-Two-Dimensional Model for Water Hammer Problems, 797

Hydraulic Design of Large-Diameter Pipes, 779

Pipe networks

Multiobjective Sampling Design for Water Distribution Model Calibration, 1422

Optimal Measurement Site Locations for Inverse Transient Analysis in Pipe Networks, 1423
Simultaneous Zonation and Calibration of Pipe Net.

Simultaneous Zonation and Calibration of Pipe Network Parameters, 734

Pipe piles

Behavior of Open- and Closed-Ended Piles Driven into Sands, 607

Estimation of Load Capacity of Pipe Piles in Sand Based on Cone Penetration Test Results, 617

Pipelines

Interaction of Particles and Near-Wall Lift in Slurry Pipelines, 700

Laminar Pipeline Flow of Wastewater Sludge: Computational Fluid Dynamics Approach, 708

New Pipeline Technologies, Security, and Safety, 1628

Real-Time Monitoring for Quality Delivery of Directional Drilling Installations, 844

Pines

Comparative Performance Evaluation of Tele-Operated Pipe Laying, 201

Development of Efficient Stilling Basins for Pipe Outlets, 880

Evaluation of High-Density Polyethylene Pipe Installed using Horizontal Directional Drilling, 203

Reappraisal of Marston's Formula, 1367

Time for Development of Internal Erosion and Piping in Embankment Dams, 608

Plane strain

Constitutive Model for Static Liquefaction, 25

Cracked Membrane Model: Finite Element Implementation, 1196

Strain Localization in Sand: Plane Strain versus Triaxial Compression, 625

Planning

Early Planning and Decisions on the Southeast Corridor Project, 929

Enterprise Resource Planning for Construction Business Management, 222

Plastic analysis

Plastic Analysis and Design of Steel Plate Shear Walls, 1227

Plastic Limit Temperatures of Flexibly Connected Steel Frames: A Linear Programming Problem, 1092

Suction Caisson Capacity in Anisotropic, Purely Cohesive Soil, 34

Plastic hinges

Elastoplastic Large Deflection Analisis of Three-DImensional Steel Frames, 1207

Plasticity

"Bizxiality Effect" on the Energy Dissipated by Elastoplastic Base-Isolators, 349

Calculations of Bearing Capacity Factor d_y using Numerical Limit Analyses, 623

Consistent Finite-Element Response Sensitivity Analysis, 430

Constitutive Model for Concrete with Embedded Sets of Reinforcement, 363
Design of Retrofitting for Damaged Rectangular Hol-

low Sectioned Struts, 1182

Finite Element Studies of Asphalt Concrete Pavement Reinforced with Geogrid, 371

Inelastic Cyclic Model for Steel Braces, 342

Plastic Limit, Liquid Limit and Undrained Shear Strength of Soil—Reappraisal, 651

Plastic Resistance of Pipe Sections: Upper Bound Solution, 1088

Postcyclic Degradation of Strength and Stiffness for Low Plasticity Silt, 649

Pressure-Level Dependency and Densification Behavior of Sand through Generalized Plasticity Model, 377

Rate-Dependent Hyperplasticity with Internal Functions, 312

Plastics

Development of Design Values for Wood-Plastic Composite Materials, 1010

Load-Duration Behavior of Wood-Plastic Composites, 1024

Plate girders

Steel-Concrete Composite Plate Girders Subject to Shear Loading, 1204

Plates

Behavior and Modeling of a Bolt Bearing on a Single Plate, 1162

Behavior of Plate Load Tests on Soil Layers Improved with Cement and Fiber, 587

Calculation of Moments on Top Slab in Single-Cell Box Girders, 1098

Deflection of Metal Plate Connected Wood Trusses with Nontriangulated Openings, 1238 Dynamic Behavior of Orthotropic Rectangular Plates

under Moving Loads, 292

Effects of Material Touchness and Plate Thickness on

Effects of Material Toughness and Plate Thickness on Brittle Fracture of Steel Members, 1230

Exact Buckling Solutions for Rectangular Plates under Intermediate and End Uniaxial Loads, 375 Exact Solutions for Buckling of Multispan Rectangular

Plates, 304
Experimental and Numerical Prediction of Collapse of

Flatbar Stiffeners in Aluminum Panels, 1101

Forced Vertical Vibration of Circular Plate in Multilayered Poroelastic Medium, 424

Frequency of Functionally Graded Plates with Three-Dimensional Asymptotic Approach, 381

Inspection and Process of Tension of Cables of General Rafael Urdaneta Bridge, 96 Large-Deflection Deformation of Ferromagnetic Plates

in Magnetic Fields, 311 Longitudinal Plate and through Plate-to-Hollow Struc-

tural Section Welded Connections, 1130

Moment Magnitier Method for Long-Term Behavior of

Flat Plates Subjected to In-Plane Compression, 1093 Nondestructive Crack Detection Algorithm for Full-Scale Bridges, 1217

Plastic Analysis and Design of Steel Plate Shear Walls. 1227

Plate Load Test on Fiber-Reinforced Soil. 669

Postbuckling Analysis of Plates Resting on a Tensionless Elastic Foundation, 332

Punching Shear Strengthening of Reinforced Concrete Flat Plates using Carbon Fiber Reinforced Polymers. 1198

Ritz Buckling Analysis of Rectangular Plates with Internal Hinge, 358

Simultaneous Particle Image Velocimetry and Laser Doppler Velocimetry Measurements of Periodical Oscillatory Horseshoe Vortex System near Square Cylinder-Base Plate Juncture, 409

Spline Semidiscretization Analysis for Orthotropic Plates and Shells, 290

Stability of Stiffened Plates with Initial Imperfections, 365

Steel Semirigid Column-Tree Moment Resisting Frame Seismic Behavior, 1205

Strength Curves for Metal Plates in Compression, 1225

Ultimate Compressive Strength of Aluminum Plate Elements, 1226

Vibration of Plates with Constrained V-Notches or Cracks, 372

Vibration of Thick and Thin Plates using a New Triangular Element, 415

Welded Tee-to-HSS Connections, 1100

Plumbing

Knowledge and Reasoning for MEP Coordination, 268

Plume

Laser-Induced Fluorescence Measurements of a Turbulent Plume, 404

Liquid Volume Fluxes in Stratified Multiphase Plumes, 786

Sensitivity Analysis and Comparative Performance of Outfalls with Single Buoyant Plumes, 462

Vertical Penetration of Double-Diffusive Water Plumes Discharged Vertically Downward, 752

Poisson ratio

Analytical Solution for Fluid-Structure Interaction in Liquid-Filled Pipes Subjected to Impact-Induced Water Hammer, 432

Examination of Bulge Test for Determining Residual Stress, Young's Modulus, and Poisson's Ratio of 3C-SiC Thin Films, 43

Poles

Extreme Wind Design of Self-Supported Steel Structures: Critical Review of Related ASCE Publications, 1504

Recommended Practice for Fiber-Reinforced Polymer Products for Overhead Utility Line Structures, 1634

...

Analytical Methods used to Measure Endocrine Disrupting Compounds in Water, 1486

Control of Total Chloro-s-Triazines in Conventional Drinking Water Treatment Plants, 1491

European Research into Sewer Sediments and Associated Pollutants and Processes, 720

Hybrid Approach for Addressing Uncertainty in Risk Assessments, 451 Impact of Annual Average Daily Traffic on Highway

Runoff Pollutant Concentrations, 558
Integrated Methodology for Design of Polluted Water
Control System of Road Infrastructures for Environ-

mental Protection, 1293
Occurrence and Effects of Endocrine Disrupting Chemicals in the Environment, 1488

Pollution

Strategies of Extended Producer Responsibility for Buildings, 847

Pollution control

An Alternative Approach, 1573

Controlling Storm-Water Runoff with Tradable Allowances for Impervious Surfaces, 1417

Innovative Waste Containment Barriers for Subsurface Pollution Control, 1466

Pollution sources

Sources of Fecal Pollution in Virginia's Blackwater River, 507

Polyethylene

Fatigue Behavior of a Pavement Foundation with Recycled Aggregate and Waste HDPE Strips, 638

Polygons

Integration within Polygonal Finite Elements, 39 Interpolants within Convex Polygons: Wachspress' Shape Functions, 38

Polymers

Creep of Polymer Matrix Composites. I: Norton/ Bailey Creep Law for Transverse Isotropy, 318

- Creep of Polymer Matrix Composites. 11: Monkman-Grant Failure Relationship for Transverse Isotropy, 319
- Feasibility of Rigidified Inflatable Structures for Housing, 57
- Polymer Effects on the Vibration Damping Behavior of Cement, 1027
- Production of Soluble Microbial Products (SMP) in Anaerobic Chemostats under Nutrient Deficiency, 561
- Quantitative Description of the Pull-Out Behavior of Crimped Yarns from Cement Matrix, 1025
- Strengthening of Steel-Concrete Composite Girders using Carbon Fiber Reinforced Polymers Sheets, 1087
- Toward Load and Resistance Factor Design for Fiber-Reinforced Polymer Composite Structures, 1127

Polyvinyl chloride

Modeling and Control of Vinyl Chloride in Drinking Water Distribution Systems, 542

Ponds

- Geotechnical Study for Hydraulic Barrier System at Tailings Pond, 1479
- Modeling Nitrogen Transport in Duckweed Pond for Secondary Treatment of Swine Wastewater, 530

Pools

- Alkali-Silica Reaction—Possible Cause of Map Cracking in Gunite, 1048
- Nonaqueous Phase Liquid Pool Dissolution as a Function of Average Pore Water Velocity, 536

Population growth

Sustainability and Urban Public Transportation (Twelfth Francis C. Turner Lecture), 1323

Pore pressure

- Decontamination of Radionuclides from Concrete by Microwave Heating. 1: Theory, 368
- Decontamination of Radionuclides from Concrete by Microwave Heating. II: Computations, 369
- Determination of Hydraulic Conductivity using Piezocone Penetration Test, 33

Pore size distribution

Standardized Membrane Pore Size Characterization by Polyethylene Glycol Rejection, 9

Pore water pressure

- Hydrologic Behavior of Residual Soil Slopes in Singapore, 813
- Postcyclic Degradation of Strength and Stiffness for Low Plasticity Silt, 649

Poroelasticity

- Forced Vertical Vibration of Circular Plate in Multilayered Poroelastic Medium, 424
- Poromechanics of Anisotropic Hollow Cylinders, 419

Porosity

- Abrasion-Porosity-Strength Model for Fly Ash Concrete, 1009
- Contaminant Transport in Fissured Soils by Three-Dimensional Boundary Elements, 19
- Multiple-Porosity Model for the Transport of Reactive Contaminants in Fissured Soils with Nonequilibrium Partitioning, 30
- Permeation of High Performance Concrete, 970

Porous materials

- Disturbed State Model for Porous Saturated Materials, 24
- Synchrotron Radiation for Detecting Movement of a Volatile Soil Liquid, 499

Porous media

- Determination of Critical Head in Soil Piping, 748
- Instability of Hydrocarbon Films over Mineral Surfaces: Microscale Experimental Studies, 573
- Intake Shape Factors for Entry Points in Porous Media with Transversely Isotropic Hydraulic Conductivity, 27
- Laminar Water Wave and Current Passing over Porous Bed, 355
- Poromechanics of Anisotropic Hollow Cylinders, 419 Turbulent Flow over and within a Porous Bed, 767

Portland cements

- ASR Potentials of Glass Aggregates in Water-Glass Activated Fly Ash and Portland Cement Mortars, 968
- Cross Tensioned Concrete Pavement, 1334
- Influence of Portland Cement Type on Unconfined Compressive Strength and Linear Expansion of Cement-Stabilized Phosphogypsum, 556
- Leaching Behavior of Lead, Chromium (III), and Zinc in Cement/Metal Oxides Systems, 505
- Proof and Comments on Extensively used Assumption in PCC Pavement Analysis and Evaluation, 1309
- Solidification/Stabilization of Hazardous Wastes Containing Metals and Organic Contaminants, 485
- Stabilization of Electrical Arc Furnace Dust with Low-Grade MgO Prior to Landfill, 475

Portugal

- Audacious and Elegant 19th Century Porto Bridges, 1516
- Innovative Pavement Management and Planning System for Road Network of Portugal, 848

Post tensioning

- Cross Tensioned Concrete Pavement, 1334
- Enduring Strength, 1586
- Unbonded Posttensioned Concrete Bridge Piers. 1: Monotonic and Cyclic Analyses, 81
- Unbonded Posttensioned Concrete Bridge Piers. II: Seismic Analyses, 82

Postbuckling

- Inelastic Cyclic Model for Steel Braces, 342
- New Design Rule for Intermediate Transverse
- Stiffeners Attached on Web Panels, 1243
- Postbuckling Analysis of Plates Resting on a Tensionless Elastic Foundation, 332
- Postbuckling of Pressure-Loaded Functionally Graded Cylindrical Panels in Thermal Environments, 330

Potable water

- Control of Total Chloro-s-Triazines in Conventional Drinking Water Treatment Plants, 1491
- Degradation of Drinking Water Treatment Plant Infrastructure from Enhanced Coagulation, 856
- Design and Operation of Point-of-Use Treatment System for Arsenic Removal, 509
- Development of Optimal Poly-Alumino-Iron Sulphate Coagulant, 526
- Endocrine Disruptors as a New Regulatory Endpoint, 1487

- Evaluation of Neural Networks for Modeling Nitrate Concentrations in Rivers. 1425
- Modeling and Control of Vinyl Chloride in Drinking Water Distribution Systems, 542
- Occurrence of Endocrine-Disrupting and Other Wastewater Compounds during Water Treatment with Case Studies from Lincoln, Nebraska and Berlin, Germany, 1489
- Reduction of Fulvic Acid in Drinking Water by Ferrate, 445
- Reduction of Nitrate, Bromate, and Chlorate by Zero Valent Iron (Feⁿ), 444
- Removal of Antibiotics from Surface and Distilled Water in Conventional Water Treatment Processes, 8
- Secondary Benefits of Aquifer Storage and Recovery: Disinfection By-Product Control, 490
- Water Utility Security: Multiple Hazards and Multiple Barriers, 849

Potential flow

Intake Shape Factors for Entry Points in Porous Media with Transversely Isotropic Hydraulic Conductivity,

Powerplants

An Alternative Approach, 1573

Precipitation

- Duration of Probable Maximum Precipitation on Lake Catchments: Alternative Analysis, \$19
- Hybrid Approach for Modeling Wet Weather Response in Wastewater Systems, 1426
- Simple, Practical Method for Determining Station Weights Using Thiessen Polygons and Isohyetal Maps, 823
- Standard Practice for the Design and Operation of Hail Suppression Projects, 1642

Predictions

- Artificial Neural Network Approach for Predicting Transient Water Levels in a Multilayered Groundwater System under Variable State, Pumping, and Climate Conditions, 838
- Predicting Daily Net Radiation using Minimum Climatological Data, 887
- Prediction of Remaining Service Life of Bridge Decks using Machine Learning, 127
- Revisiting Wilson's Formulas for Simplified Wind-Wave Prediction, 1438
- Seasonal Prediction with Error Estimation of Columbia River Streamflow in British Columbia, 1394
- Shrink Test-Water Content Method for Shrink and Swell Predictions, 634
- Solar and Net Radiation-Based Equations to Estimate Reference Evapotranspiration in Humid Climates,
- Validation of a Predictive Form of Horton Infiltration for Simulating Furrow Irrigation, 903

Preservation

- Reconstructed With Precision, 1548
- Wetlands at Work, 1550

Pressure distribution

- Concentrations of Pressure between an Elastically Supported Beam and a Moving Timoshenko-Beam, 399
- Tentative New Formula for Maximum Horizontal Wave Forces Acting on Perforated Caisson, 1431

Pressures

- Influence of Different Cleaning Conditions on Cleaning Performance of Pilot-Scale Pulse-Jet Baghouse, 538
- Numerical Simulation on Damage and Failure of Brittle Rocks under Different Confining Pressures, 37

Prestressing

Behavior of Concrete Driven by Uniaxially Embedded Shape Memory Alloy Actuators, 360

Pretensioning

Inspection and Process of Tension of Cables of General Rafael Urdaneta Bridge, 96

Pricing

- Application of Variable Tolls on Congested Toll Road, 1325
- Evaluation of Value Pricing using a Multiclass Dynamic Network Model, 1357

Private sector

Urban Beaches: Balancing Public Rights and Private Development, 1646

Probabilistic methods

- Bounds on System Reliability by Linear Programming, 351
- Evaluating and Comparing Bidding Optimization Effectiveness, 231
- Optimizing Urban Water Supply Headworks using Probabilistic Search Methods, 1414
- Probabilistic Basis for 2000 SAC Federal Emergency Management Agency Steel Moment Frame Guidelines. 6
- Probabilistic Model for Cost Contingency, 230 Probabilistic Strength Estimates and Reliability of
- Damaged Parallel Wire Cables, 106

Probabilistic models

- Effects of Excessive Pavement Joint Opening and Freezing on Sealants, 1336
- Probabilistic Model for Marine Corrosion of Steel for Structural Reliability Assessment, 1231
- Uncertain Dynamical Systems in the Medium-Frequency Range, 393

Probability

- Analytic Hierarchy Process Analyzes Risk of Operating Cross-Country Petroleum Pipelines in India, 1543
- Autorun Persistence of Hydrologic Design, 836
- Estimating Rear-End Accident Probabilities at Signalized Intersections: Occurrence-Mechanism Approach, 1328
- Joint Seasonal/Annual Flood Frequency Analysis, 818
- Life Cycle Modeling of Corrosion Affected Concrete Structures—Initiation, 1032 Probabilistic Site Characterization at the National Geo-
- technical Experimentation Sites, 1632 Probability of Failure Occurrence and Recurrence in
- Rock Slopes Stability Analysis, 15 Simplified Cone Penetration Test-Based Method for
- Evaluating Liquefaction Resistance of Soils, 584 Structural Reliability/Redundancy under Earthquakes, 1090
- Weighted-Climate Parametric Hydrologist Forecasting, 817

Probability density functions

True Form of Instantaneous Unit Hydrograph of Linear Reservoirs, 860

Probability distribution

Nonlinear Hydrologic Processes: Conservation Equations for Determining Their Means and Probability Distributions, 804

Rolling and Lifting Probabilities for Sediment Entrainment, 704

Probability distribution functions

Bivariate Drought Recurrence Analysis using Tree Ring Reconstructions, 827

Process control

Integrated Simulation-Optimization Approach for Real-Time Dynamic Modeling and Process Control of Surfactant-Enhanced Remediation at Petroleum-Contaminated Sites, 1472

Productivity

Baseline Determination in Construction Labor Productivity-Loss Claims, 957

Bridge Falsework Productivity—Measurement and Influences, 226

Building Project Model Support for Automated Labor Monitoring, 129

Comparative Performance Evaluation of Tele-Operated Pipe Laying, 201

Improving Labor Flow Reliability for Better Productivity as Lean Construction Principle, 227

Is Construction Labor Productivity Really Declining?, 202

Labor Productivity Drivers and Opportunities in the Construction Industry, 947

Laboratory-Based Productivity Study on Alternative Masonry Systems, 225

Management's Perception of Key Performance Indicators for Construction, 213

Measuring Productivity: An Industry Challenge, 1600 Plug and Chug, Cram and Flush, 1060

Role of Workforce Management in Bridge Superstructure Labor Productivity, 939

Professional development

Cultivating the Next Crop of Leaders, 932
Fostering Innovation and Entrepreneurialism in a
Value-Driven Organization, 933

Professional engineering

Whistle-Blowing Engineer, 1082

Professional practice

Course in Professional Practice Issues, 1063

Framework for Undergraduate Engineering Management Studies, 1067

Multistep Dispute Resolution in Design and Construction Industry, 1066

Profiles

Beach-Profile Evolution under Spilling and Plunging Breakers, 1432

Profits

Indicator Variables Model of Firm's Size-Profitability Relationship of Electrical Contractors using Financial and Economic Data, 219

Progressive failure

Constitutive Behavior of Geosynthetic Interfaces, 10

Project management

Agent-Based Compensatory Negotiation Methodology to Facilitate Distributed Coordination of Project Schedule Changes, 128 Alternate Financing Strategies for Build-Operate-Transfer Projects, 221

Benchmarking, Benchaction, and Benchlearning: Rework Mitigation in Projects, 956

Bridge Falsework Productivity—Measurement and Influences, 226

Building Project Model Support for Automated Labor Monitoring, 129

Can Labor Inputs be Measured and Controlled Automatically?, 247

Early Planning and Decisions on the Southeast Corridor Project, 929

Educational Needs Assessment for Design/Build Project Delivery, 1069

Forecasting Construction Staffing for Transportation Agencies, 952

Genetic Optimization for Dynamic Project Control, 242 Impact of Information Technology on Facility Engineering, 924

Implications of Even Flow Production Methodology for U.S. Housing Industry, 235

Lessons Learned from Rigid Conflict Resolution in an Organization: Construction Conflict Case Study, 948

Management Online: Mining the Full Potential of the Intranet, 931

Management's Perception of Key Performance Indicators for Construction, 213

Master Builder Project Delivery System and Designer Construction Knowledge, 269

Optimal Capital Structure Model for BOT Power Projects in Turkey, 208

Optimal Project Organizational Structure for Construction Management, 206
Pilot Study of Quality Function Deployment in Con-

struction Projects, 234
Predicting Cost Deviation in Reconstruction Projects:

Artificial Neural Networks versus Regression, 243 Probabilistic Model for Cost Contingency, 230

Process-Parameter-Interface Model for Design Management, 271

Project Delivery Systems and Project Change: Quantitative Analysis, 240

Project Management Actions to Improve Design Phase Cost Performance, 941

Project Management Training and Community Service, 935

Reconstruction of the Building Infrastructure: Two Performance Prediction Models, 843

Resource-Activity Critical-Path Method for Construction Planning, 244

Software for Planning and Cost Control in Directional Drilling Projects, 248

System Dynamics Approach to Exploring Performance Enhancement in a Construction Organization, 257

Virtual Teams: Guide to Successful Implementation, 950

Workforce Demographics among Project Engineering Professionals—Crisis Ahead?, 959

Project planning

Automated Path Planning of Cooperative Crane Lifts Using Heuristic Search, 147

Use of Quality Function Deployment in Civil Engineering Capital Project Planning, 237

Projectiles

Projectiles

Perforation Thickness and Ballistic Limit of Concrete Target Subjected to Rigid Projectile Impact, 400

Public information programs

Exaggeration of Wind Conditions in Hurricane Floyd and Other Tropical Cyclones, 1521

Public participation

Interplay of Science and Stakeholder Values in Neuse River Total Maximum Daily Load Process, 1403

Public safety

Whistle-Blowing Engineer, 1082

Public service

Bridge Construction in Guatemala: Linking Social Issues and Engineering, 1071

Public transportation

Simulating the Impacts of Strong Bus Priority Measures, 1360

Sustainability and Urban Public Transportation (Twelfth Francis C. Turner Lecture), 1323

Travel Characteristics of Commuters Accessing Transit: Case Study, 1365

Public welfare

Housing Quality: Implications for Design and Management, 1377

Urban Beaches: Balancing Public Rights and Private Development, 1646

Public works

Alternative Dispute Resolution in U.S. Public Works: Proposed Model, 1065

Transformation, 1601

Puerto Rico

Eutrophication and Pathogen Abatement in the San Juan Bay Estuary, 480

Pull-out resistance

100-Ton (890 kN) Rock Anchor Pullout Test, 1496

Performance of Tension and Compression Anchors in Weathered Soil, 690

Quantitative Description of the Pull-Out Behavior of Crimped Yarns from Cement Matrix, 1025

Strength of Concrete Subjected to Pullout Load, 1020

Three-Dimensional Lower Bound Solutions for Stability of Plate Anchors in Clay, 602

Uplift Behavior of Blade-Underreamed Anchors in Silty Sand, 632

Pump intakes

Influence of Pump Intake Location on Well Efficiency, 820

Pumping stations

Optimal Design and Operation of Irrigation Pumping Stations, 875

Water Delivery System Planning Considering Irrigation Simultaneity, 886

Pumping tests

Estimation of Aquifer Parameters from Pumping Test Data by Genetic Algorithm Optimization Technique, 897

Storage Coefficient and Transmissivity from Residual Drawdowns, 759

2003 ASCE TRANSACTIONS

Pumps

Effects of Aquifer Anisotropy on the Migration of Infiltrated Stream Water to a Pumping Well, 831

Flow Depletion of Semipervious Streams Due to Pumping, 907

Optimal Pump Scheduling in Water Supply Systems with Maximum Demand Charges, 1413

Systems Analysis of Pump-and-Treat Groundwater Remediation, 1481

Tapping the Desert, 1560

Use of Steady-State Pump Head-Discharge Curve for Unsteady Pipe Flow Applications, 796

Water Delivery System Planning Considering Irrigation Simultaneity, 886

Punching

Punching Shear Behavior of Fiber Reinforced Polymers Reinforced Concrete Flat Slabs: Experimental Study, 184

Shear Strengthening of Interior Slab-Column Connections using Carbon Fiber-Reinforced Polymer Sheets, 173

Strength of Concrete Subjected to Pullout Load, 1020

Pyrolysis

Effects of Oxygen on Pyrolysis Kinetics of Tetra Pack, 487

Quality control

Achieving Client Satisfaction for Engineering Consulting Firms, 958

Benchmarking, Benchaction, and Benchlearning: Rework Mitigation in Projects, 956

Construction in Hong Kong: Success Factors for ISO9000 Implementation, 265

Construction Quality Control for Asphalt Concrete Hydraulic Barriers, 599

Housing Quality: Implications for Design and Management, 1377

ISO 9000 and the U.S. Construction Industry, 946 Pilot Study of Quality Function Deployment in Construction Projects, 234

Quality, Environmental, and Health and Safety Management Systems for Construction Engineering, 261

Real-Time Monitoring for Quality Delivery of Directional Drilling Installations, 844

Use of Quality Function Deployment in Civil Engineering Capital Project Planning, 237

Radar

Determining Traffic Stream Impacts of Radar Detectors using Microscopic Simulation, 1284

Nondestructive Evaluation of Concrete Infrastructure with Ground Penetrating Radar, 995

Optimization of Ground-Penetrating Radar Data to Predict Layer Thicknesses in Flexible Pavements, 1294

Radar-Based Flood Warning System Applied to Tropical Storm Allison, 834

Vertical Velocity Variance in the Mixed Layer from Radar Wind Profilers, 833

Radiation

Predicting Daily Net Radiation using Minimum Climatological Data, 887

Solar and Net Radiation-Based Equations to Estimate Reference Evapotranspiration in Humid Climates,

Radioactive materials

Removal of Metals and Radionuclides using Apatite and Other Natural Sorbents, 500

Radiography

Heterogeneous Strain and Bonded Granular Structure Change in Triaxial Specimen Studied by Computer Tomography, 421

Strain Localization in Sand: Plane Strain versus Triaxial Compression, 625

Rail transportation

Advancing Under London, 1603

Dynamic Characteristics of Infinite and Finite Railways to Moving Loads, 390

Railroad grade crossings

Highway-Rail Quad Gate Operation Time by System Simulation of Dynamic Dilemma Zone, 1313

Railroad stations

Levels of Service for Stairway in Hong Kong Underground Stations, 1306

Railroad tracks

Concentrations of Pressure between an Elastically Supported Beam and a Moving Timoshenko-Beam, 399

Dynamic Characteristics of Infinite and Finite Railways to Moving Loads, 390

Nonlinear Thermal Analysis for Qing-Tibet Railway Embankments in Cold Regions, 126 Pond Water Source for Irrigation on Steep Slopes, 879

Railroad trains

Dynamic Response of Suspension Bridge to High Wind and Running Train, 76

Rainfall

Erosion Hazards Index for Lateritic Soils, 1528

Estimating Characteristics of Rainfall and their Effects on Sampling Schemes: Case Study for Han River Basin, Korea, 814

Hydrologic Behavior of Residual Soil Slopes in Singapore, 813

Hydrologic Impacts of Distrubed Lands Treated with Dust Suppressants, 830

Improved Decomposition Solution to Green and Ampt Equation, 815

Numerical Simulation of Rain Scavenging on Large Release of Water-Soluble Gases, 450 Physical and Zeta Potential Characteristics of Erodible

Lateritic Soils, 1530

Probabilistic Solution to Stochastic Overland Flow Equation, 805

Sampling Adjustment Factors for Rainfall Recorded at Fixed Time Intervals, 832

Rainfall duration

Duration of Probable Maximum Precipitation on Lake Catchments: Alternative Analysis, 819

Sampling Adjustment Factors for Rainfall Recorded at Fixed Time Intervals, 832

Rainfall intensity

Simple Estimation of Prevalence of Hortonian Flow in New York City Watersheds, 822

Rainfall-runoff relationships

Comparative Analysis of Event-Based Rainfall-Runoff Modeling Techniques—Deterministic, Statistical, and Artificial Neural Networks, 809

Random processes

Identification of Statistically Homogenous Soil Layers Using Modified Bartlett Statistics, 640

Moment Equation Analysis of Base-Isolated Buildings Subjected to Support Motion, 294

Non-Gaussian Simulation: Cumulative Distribution Function Map-Based Spectral Correction, 433

Random vibration

Aerodynamic Loads on Tall Buildings: Interactive Database, 1123

Spectral Approach to Equivalent Statistical Quadratization and Cubicization Methods for Nonlinear Oscillators, 287

Rapid transit systems

Singapore on the Move, 1596

Ratings

Radial Basis Function Neural Network for Modeling Rating Curves, 816

Reaeration

Wind and Stream Flow Induced Reaeration, 574

Reconstruction

First of Its Kind, 1581

Guidelines for Estimating Capacity at Freeway Reconstruction Zones, 1352

Predicting Cost Deviation in Reconstruction Projects: Artificial Neural Networks versus Regression, 243

Ramping Up, 1590

Rebuilding the World Trade Center, 1507

Reconstructed With Precision, 1548

Reconstruction of the Building Infrastructure: Two Performance Prediction Models, 843

Recreational facilities

Transforming Crissy Field, 1553

Recycling

Application of Construction and Building Debris as Base and Subbase Materials in Rigid Pavement, 1350

Application of FTIR-ATR to Characterization of Bitumen Rejuvenator Diffusion, 979 By-Products in Earth Construction: Environmental

Assessments, 548
Crumb Rubber–Bitumen Interactions: Cold-Stage

Optical Microscopy, 1011 Effects of Kiln Ash on the Compressibility of Residual Lateritic Soils, 554

Evaluation of Illinois Pulverized Coal Combustion Dry Bottom Ash for Use in Geotechnical Engineering Applications, 279

Fatigue Behavior of a Pavement Foundation with Recycled Aggregate and Waste HDPE Strips, 638

Framework for Recycling of Wastes in Construction,

Hydrofluoric Acid Recovery from Waste Semiconductor Acid Solution by Ion Exchange, 498

Influence of Recycled Aggregate on Interfacial Transition Zone, Strength, Chloride Penetration and Carbonation of Concrete, 1014

Leaching Behavior of Lead, Chromium (III), and Zinc in Cement/Metal Oxides Systems, 505

Mechanical Stabilization of Cemented Soil—Fly Ash Mixtures with Recycled Plastic Strips, 553

Municipal Solid Waste Fly Ash as a Blended Cement Material, 1023

- Physical and Chemical Properties of Recycled Tire Shreds for Use in Construction, 551
- Properties of Field Manufactured Cast-Concrete Products Utilizing Recycled Materials, 1008
- Reuse of Incinerator Fly Ash in Soft Soil Stabilization, 1001
- Strategies of Extended Producer Responsibility for Buildings, 847
- Use of Residential Construction Waste and Residues from Red Ceramic Industry in Alternative Mortars, 550
- Use of Waste Materials for Control of Acid Mine Drainage and Subsidence, 549

Redundancy

Nonlinear Behavior of Heavy Class Steel Truss Bridges, 1192

Reefs

Modeling Tropical Cyclone Wave Population of the Great Barrier Reef, 1439

Regression analysis

Dynamic Instability of Simple Structural Systems, 1255

Regression models

- Comparative Analysis of Event-Based Rainfall-Runoff Modeling Techniques—Deterministic, Statistical, and Artificial Neural Networks, 809
- Modeling Dredging Project Cost Variations, 1459
- Regression Model for Daily Maximum Stream Temperature, 523
- Statistical Prediction of Atmospheric Corrosion from Atmospheric-Pollution Parameters, 1483
- Support of Total Maximum Daily Load Programs Using Spatially Referenced Regression Models, 1408

Regulations

- Differentiation, Conformity, and Construction Firm Performance, 944
- Endocrine Disruptors as a New Regulatory Endpoint, 1487
- Regulated Riparian Model Water Code, 1635

Rehabilitation

- Application of Fiber-Reinforced Polymer Overlays to Extend Steel Fatigue Life, 192
- Assessment of Highway Bridge Upgrading by Dynamic Testing and Finite-Element Model Updating, 89
- Comparative Analysis of using AASHTO and WES-DEF Approaches in Back-Calculation of Pavement Layer Moduli, 1322
- Comparative Study of Models on Confinement of Concrete Cylinders with Fiber-Reinforced Polymer Composites, 181
- Corrosion Condition Evaluation at Muddy Creek Bridge, 1057
- Environmental Impacts to Design/Build Projects—A Case Study of the St. George Island Bridge Replacement, Apalachicola Bay, Florida, 926
- Evaluation of Expected Life-Cycle Maintenance Cost of Deteriorating Structures, 1150
- Finite-Element Analysis of Steel Bridge Distortion-Induced Fatigue, 101
- Hydraulic Performance Index of a Sewer Network, 747 Increasing the Load Capacity of Suspension Bridges, 105
- Keeping It Rolling, 1583

- Nonlinear Analysis as a Diagnostic Tool for the Strengthening of an Old Wooden Dome, 1223
- Project Management Training and Community Service, 935
- Rebuilding the Winter Garden, 1547
- Reconstructed With Precision, 1548
- Reconstruction of the Building Infrastructure: Two Performance Prediction Models, 843
- Rehabilitation of Bridge Superstructures via the Addition of Girder Lines. I: Theoretical Considerations, 1510
- Rehabilitation of Bridge Superstructures via the Addition of Girder Lines. II: Practical Considerations, 1511
- Repair of Cracked Aluminum Overhead Sign Structures with Glass Fiber Reinforced Polymer Composites, 170
- Repair of Damaged Steel-Concrete Composite Girders using Carbon Fiber-Reinforced Polymer Sheets, 190
- Repair of New Long-Span Bridges Damaged by the 1995 Kobe Earthquake, 1056
- Research into a Management System for Diagnosis, Maintenance, and Repair of Concrete Structures, 260 Restoring PATH, 1577
- Risk-Based Life-Cycle Costing of Infrastructure Rehabilitation and Construction Alternatives, 841
- Updating Bridge Reliability Based on Bridge Management Systems Visual Inspection Results, 113

Reinforcement

- Bond Behavior of Corroded Steel Reinforcement in Concrete Wrapped with Carbon Fiber Reinforced Polymer Sheets, 1004
- Durability Gap Analysis for Fiber-Reinforced Polymer Composites in Civil Infrastructure, 182
- Field Assessment of Unreinforced Masonry Walls Strengthened with Fiber Reinforced Polymer Laminates, 1185
- Performance of Axially Loaded Short Rectangular Columns Strengthened with Carbon Fiber-Reinforced Polymer Wrapping, 179
- Seismic Retrofit of Shear Walls with Headed Bars and Carbon Fiber Wrap, 1143
- Shear Analysis of Concrete with Brittle Reinforcement,
- Use of Fibers and Welded-Wire Reinforcement in Construction of Slabs on Ground, 1498

Relative density

Estimation of Load Capacity of Pipe Piles in Sand Based on Cone Penetration Test Results, 617

Relaxation, mechanics

- Combining Dynamic Relaxation Method with Artificial Neural Networks to Enhance Simulation of Tensegrity Structures, 1149
- Formulation of L₁ Norm Minimization in Gauss-Markov Models, 1261
- Long-Term Properties and Transfer Length of Fiber-Reinforced Polymers, 158

Reliability

- Development and Application of Wood Shear Wall Reliability Model, 1124
- Development of a Reliability-Based Design Framework for Transmission Line Structure Foundations, 653
- Life-Cycle Modeling of Corrosion-Affected Concrete Structures: Propagation, 1158

- Multiple Resistance Factor Design for Shallow Transmission Line Structure Foundations, 654
- Reliability of Applied Semiactive Structural Control System, 1172
- Reliability of Fiber-Reinforced Polymer-Confined Reinforced Concrete Columns, 1193
- Reliability-Based Assessment of Suspension Bridges: Application to the Innoshima Bridge, 5
- Subset Simulation and its Application to Seismic Risk Based on Dynamic Analysis, 382
- Systematic Reliability-Based Environmental Design of Erosion for Efficient Engineered Landscape Profiling, 517
- Toward Load and Resistance Factor Design for Fiber-Reinforced Polymer Composite Structures, 1127

Reliability analysis

- Assessment of Current Load Factors for Use in Geotechnical Load and Resistance Factor Design, 606
- Bounds on System Reliability by Linear Programming, 351
- Classification Approach for Reliability Analysis with Stochastic Finite-Element Modeling, 1195
- Cold-Formed Steel Channels Subjected to Concentrated Bearing Load, 1181
- Consistent Finite-Element Response Sensitivity Analysis, 430
- Genetic Algorithms in Competitive Environments, 141 Linear Stochastic Dynamical System under Uncertain
- Load: Inverse Reliability Analysis, 356 New Approach to Limit Equilibrium and Reliability
- Analysis of Soil Nailed Walls, 26 Probabilistic Strength Estimates and Reliability of Damaged Parallel Wire Cables, 106
- Damaged Parallel Wire Cables, 106 Rating and Reliability of Existing Bridges in a Net-
- work, 114 Reliability of Frame and Shear Wall Structural Sys-

tems. II: Dynamic Loading, 1109

Remedial action

- Advancing Mitigation Technologies and Disaster Response for Lifeline Systems, 1605
- Assessing Community Impacts of Natural Disasters, 1539
- Bioslurping Model for Assessing Light Hydrocarbon Recovery in Contaminated Unconfined Aquifer. I: Simulation Analysis, 1474
- Bioslurping Model for Assessing Light Hydrocarbon Recovery in Contaminated Unconfined Aquifer. II: Optimization Analysis, 1475
- Centrifugal Modeling of Seismic Behavior of Large-Diameter Pipe in Liquefiable Soil, 685
- Design, Construction, and Operation of Tailored Permeable Reactive Barriers, 1490
- Dredging '02: Key Technologies for Global Prosperity, 1613
- Ecology Ditch: A Best Mangement Practice for Storm Water Runoff Mitigation, 811 Field and Laboratory Evaluation of the Impact of Tall
- Fescue on Polyaromatic Hydrocarbon Degradation in an Aged Creosote-Contaminated Surface Soil, 470 Fully Coupled Analysis of Failure and Remediation of
- Lower San Fernando Dam, 611
 The Impact of Volcanic Eruptions during the 1990s.

- Integrated Simulation-Optimization Approach for Real-Time Dynamic Modeling and Process Control of Surfactant-Enhanced Remediation at Petroleum-Contaminated Sites, 1472
- lodide-Enhanced Electrokinetic Remediation of Mercury-Contaminated Soils, 575
- Mercury-Contaminated Soil Remediation by Iodide and Electroreclamation, 494
- Multiple-Porosity Model for the Transport of Reactive Contaminants in Fissured Soils with Nonequilibrium Partitioning, 30
- Numerical Simulation of Dual-Phase Vacuum Extraction to Remove Nonaqueous Phase Liquids in Subsurface, 1473
- Remediation of Contaminated Soils by Surfactant-Aided Soil Washing, 1463
- Systems Analysis of Pump-and-Treat Groundwater Remediation, 1481
- Urban Hazard Mitigation: Creating Resilient Cities, 1534
- Use of an Anaerobic Sludge Digestion Process to Treat Pentachlorophenol-(PCP-) Contaminated Soil, 572 Watershed Management, 1647

Remote sensing

- Mapping Root Zone Soil Moisture using Remotely Sensed Optical Imagery, 895
- Water Stress Detection under High Frequency Sprinkler Irrigation with Water Deficit Index, 863

.....

Riding High in Las Vegas, 1557

Repeated loads

Evaluation of Cyclic Shear Strength of Two Cemented Calcareous Soils, 636

Replacement

Worthy Successor, 1593

Research

- Design/Build in Transportation from the Research Perspective, 927
- Knowledge Mining of Information Sources for Research in Construction Management, 218
- Nanotechnology Takes Roots, 1567

Research needs

Long-Term Groundwater Monitoring: The State of the Art, 1625

Reservoir management

Optimization of Reservoir Management and Operation with Hedging Rules, 1388

Reservoir operation

- Optimization of Reservoir Management and Operation with Hedging Rules, 1388
- Water Reservoir Control with Data Mining, 1382

Reservoirs

- Case Study: Impact of Reservoir Stratification on Interflow Travel Time, 792
- Coupling an Underflow Model to a Three-Dimensional Hydrodynamic Model, 769
- Evidence of High Vertical Wave-Number Behavior in a Continuously Stratified Reservoir: Boadella. Spain, 768
- Incorporating Reservoir Transfer into Treatment Optimization Decisions, 486
- Making the Transition, 1566

Reservoirs

Modeling Reservoir Irrigation in Uncertain Hydrologic Environment, 877

Optimal Sizing of On-Farm Reservoirs for Supplemental Irrigation, 872

Optimal Water Management for Reservoir-Based Irrigation Projects using Geographic Information System, 859

Pressure Relief, 1552

Reducing Numerical Diffusion Effects with Pycnocline Filter, 714

Reservoir Routing using Steady and Unsteady Flow through Rockfill Dams, 740

Reservoir Simulations of Synthetic Rain Floods for the Sacramento and San Joaquin River Basins, 1420

True Form of Instantaneous Unit Hydrograph of Linear Reservoirs, 860

Residence time

Hydraulic Analysis of Orlando Easterly Wetland, 508

Residential location

Hydrological and Fiscal Impacts of Residential Development: Virginia Case Study, 1390

Method for Forensic Analysis of Residential Floor-Elevation Data. 1047

Residual strength

Residual Life of Corroding Reinforced Concrete Structures in Marine Environment, 1002

Residual Shear Strength Mobilized in First-Time Slope Failures, 580

Residual stress

Examination of Bulge Test for Determining Residual Stress, Young's Modulus, and Poisson's Ratio of 3C-SiC Thin Films, 43

Finite-Element Modeling of Heat-Curved I-Girders, 88 Strength of Concrete Filled Steel Box Columns Incorporating Interaction Buckling, 1145

Resilience

Comparative Analysis of using AASHTO and WES-DEF Approaches in Back-Calculation of Pavement Layer Moduli, 1322

Resistance coefficients

Hydraulic Design of Large-Diameter Pipes, 779 Modeling Event-Based Temporal Variability of Flow Resistance Coefficient, 829

Resistance factors

Multiple Resistance Factor Design for Shallow Transmission Line Structure Foundations, 654

Resource allocation

Phantom Float, 255

Resource management

Resource Optimization using Combined Simulation and Genetic Algorithms, 276

Resource-Activity Critical-Path Method for Construction Planning, 244

Transformation, 1601

Virtual Teams: Guide to Successful Implementation. 950

Response spectra

Potential for Structural Failure in the Seismic Near Field, 384

Restoration

Design for Stream Restoration, 754

Dredging '02: Key Technologies for Global Prosperity, 1613

Transforming Crissy Field, 1553

Unleashing the Flow, 1572

Urban Beaches: Balancing Public Rights and Private Development, 1646

Retaining walls

Extended Hyperbolic Model for Sand-to-Concrete Interfaces, 674

Simplified Trial Wedge Method for Soil Nailed Wall Analysis, 589

Time-Dependent Back Analysis of a Multianchored Pile Retaining Wall, 586

Retention

Soil Water Retention and Conductivity when Vapor Flow is Important, 881

Retrofitting

Composite Reinforcement to Strengthen Existing Concrete Structures against Air Blast, 167

Design of Retrofitting for Damaged Rectangular Hollow Sectioned Struts, 1182

Durability Gap Analysis for Fiber-Reinforced Polymer Composites in Civil Infrastructure, 182

Energy-Dissipating Polymer Matrix Composite-Infill Wall System for Seismic Retrofitting, 1126

Evaluation of Seismic Performance for Tunnel Retrofit Project, 633

External Prestressing Concrete Columns for Improved Seismic Shear Resistance, 1186

Fatigue Strength of Steel Girders Strengthened with Carbon Fiber-Reinforced Polymer Patch, 1104 Fiber-Sizing-Based Enhancement of Materials Durabil-

ity for Seismic Retrofit, 178
Fracture Model for Flexural Failure of Beams
Retrofitted with CARDIFRC, 394

Full-Scale Test of Seismic Cable Restrainer Retrofits for Simply Supported Bridges, 92

A Higher Profile, 1563

Hurricane Risks and Economic Viability of Strengthened Construction, 1519

Investigation of Bond in Concrete Structures Strengthened with Near Surface Mounted Carbon Fiber Reinforced Polymer Strips, 183

Predicting Cost Deviation in Reconstruction Projects: Artificial Neural Networks versus Regression, 243

Rehabilitation of Bridge Superstructures via the Addition of Girder Lines. II: Practical Considerations, 1511

Repair of Cracked Aluminum Overhead Sign Structures with Glass Fiber Reinforced Polymer Composites, 170

Retrofit of Reinforced Concrete Columns using Partially Stiffened Steel Jackets, 1155

Retrotit Priority of Transport Network Links under an Earthquake, 1378

Retrofitting of Reinforced Concrete Beams with CAR-DIFRC, 176

Seismic Retrofit of Shear Walls with Headed Bars and Carbon Fiber Wrap, 1143

Strengthening of Steel-Concrete Composite Girders using Carbon Fiber Reinforced Polymers Sheets, 1087

Use of Composite Reinforcement to Strengthen Concrete and Air-Entrained Concrete Masonry Walls against Air Blast, 168

Reynolds number

- Flow Conditions of Undular Hydraulic Jumps in Horizontal Rectangular Channels, 790
- Fluctuations of Turbulent Bed Shear Stress, 298
- Measurements of Water Surface Profile and Velocity Field at a Circular Pier, 338
- Modeling Event-Based Temporal Variability of Flow Resistance Coefficient, 829
- Omission of Critical Reynolds Number for Open Channel Flows in Many Textbooks, 1064

Rheological properties

- Correlation of Rheological Properties to Durability and Strength of Hardened Concrete, 1007
- Rheological Characterization of Heterogeneous Materials with Evolving Properties, 991

Rheology

- Electrorheological and Magnetorheological Duct Flow in Shear-Flow Mode using Herschel-Bulkley Constitutive Model, 437
- Rheological Behavior of Fine and Large Particle Suspensions, 774

Rhode Island

Conjunctive-Management Models for Sustained Yield of Stream-Aquifer Systems, 1383

Rigid pavements

Application of Construction and Building Debris as Base and Subbase Materials in Rigid Pavement, 1350

Rigid-body dynamics

Fluid Motion Generated by Impact, 1456

Rigidity

- Feasibility and Optimization of Rigidified Inflatable Structures for Housing, 1232
- Flexural and Shear Rigidity of Composite Sheet Piles, 194

Riparian rights

Regulated Riparian Model Water Code, 1635

Riparian waters

- Interactive Effects of Controlled Drainage and Riparian Buffers on Shallow Groundwater Quality, 868
- Regulated Riparian Model Water Code, 1635

Risk

- Autorun Persistence of Hydrologic Design, 836
- Impacts of Obstacles in East Asian Cross-Border Construction, 212
- No-Damages-for-Delay Clause: Evaluating Contract Delay Risk, 1083

Risk analysis

Assessments, 451

- Assessment of Risk due to Debris Flow Events, 1532
- Comparison of Risk Calculation Methods for a Culvert, 707
- Economic Model to Optimize Underground Utility Protection, 270
- Evaluating Risk in Construction—Schedule Model (ERIC-S): Construction Schedule Risk Model, 256
- Hurricane Risks and Economic Viability of Strengthened Construction, 1519 Hybrid Approach for Addressing Uncertainty in Risk

- Hybrid Fuzzy-Stochastic Modeling Approach for Assessing Environmental Risks at Contaminated Groundwater Systems, 452
- Multiobjective Risk Analysis and Optimization of Regional Hazardous Waste Management System, 1469
- Risk Assessment in Construction, 253
- Risk-Based Expenditure Allocation for Infrastructure Improvement, 115
- Risk-Based Life-Cycle Costing of Infrastructure Rehabilitation and Construction Alternatives, 841

Risk management

- Analytic Hierarchy Process Analyzes Risk of Operating Cross-Country Petroleum Pipelines in India, 1543
- Beyond Semantics and the Immediate Postdisaster Period: Community Quality of Life as an Overarching Theme for Sustaining Collective Action, 1537
- Early Planning and Decisions on the Southeast Corridor Project, 929
- Effects of Tariff Design in Rish Management of Privately Financed Infrastructure Projects, 266
- How to Evaluate and Invest in Emerging A/E/C Technologies under Uncertainty, 199
- Integrated Approach to Total Maximum Daily Load Development for Neuse River Estuary using Bayesian Probability Network Model (Neu-BERN), 1404
- Integrated Flood Risk Management in England and Wales, 1533
- Integrated Subsurface Modeling and Risk Assessment of Petroleum-Contaminated Sites in Western Canada, 544
- Multistep Dispute Resolution in Design and Construction Industry, 1066
- New Pipeline Technologies, Security, and Safety, 1628 Performance in International Construction Joint Ventures: Modeling Perspective, 267
- Risk Allocation and Rish Handling of Highway Projects in Taiwan, 945
- Risk-Based Decisionmaking in Water Resources X,
- Water Utility Security: Multiple Hazards and Multiple Barriers, 849

River basins

- Integrated Hydrologic-Agronomic-Economic Model for River Basin Management, 1380
- Methodology for Assessment of Climate Change Impacts on Large-Scale Flood Protection System, 1412
- Reservoir Simulations of Synthetic Rain Floods for the Sacramento and San Joaquin River Basins, 1420
- Robustness of River Basin Water Quality Models,
- Support of Total Maximum Daily Load Programs
 Using Spatially Referenced Regression Models,
 1408

Divor hode

- Cluster Evolution and Flow-Frictional Characteristics under Different Sediment Availabilities and Specific Gravity, 412
- Coherent Structures in Flat-Bed Abutment Flow: Computational Fluid Dynamics Simulations and Experiments, 710
- Fluid-Particle Interactions and Resuspension in Simple Shear Flow, 794

River flow

Fluid-Particle Interactions and Resuspension in Simple Shear Flow, 794

Three-Dimensional Numerical Simulation of Compound Channel Flows, 760

Validation of a Three-Dimensional Numerical Code in the Simulation of Pseudo-Natural Meandering Flows, 770

Wind and Stream Flow Induced Reaeration, 574

River systems

Dynamic Wave Study of Flow in Tidal Channel System of San Juan River, 749

Treatment of Natural Geometry in Finite Volume River Flow Computations, 733

Rivers

Analysis and Prediction of Transverse Mixing Coefficients in Natural Channels, 706

Coping with Uncertainty: A Case Study in Sediment Transport and Nutrient Load Analysis, 1411

Estimation of Sustainable Yield of Some Rivers in Trinidad, 803

Impact of River Channelization on Seismic Risk: Shelby County, Tennessee, 1518

Interplay of Science and Stakeholder Values in Neuse River Total Maximum Daily Load Process, 1403

Parameters Affecting the Performance of Wetting and Drying in a Two-Dimensional Finite Element Long Wave Hydrodynamic Model, 758

River Ecology and Flood Hazard Mitigation, 1523

Role of Resistance Coefficient in Seasonal Adjustments in Alluvial Rivers, 787

Sources of Fecal Pollution in Virginia's Blackwater River, 507

Three-Dimensional Modeling of Tidal Circulation in Bay of Fundy, 1440

Road construction

Simplified Discrete-Event Simulation Approach for Construction Simulation, 258

Road surface

Statistical Approach to Road Segmentation, 1319

Road

Analytical Model to Determine the Influence of Horizontal Alignment of Two-Axle Heavy Vehicles on Upgrades, 1353

Friction Measurement on Cycleways using a Portable Friction Tester, 119

Frontage Roads: Assessment of Legal Issues, Design Decisions, Costs, Operations, and Land-Development Differences, 1312

Integrated Methodology for Design of Polluted Water Control System of Road Infrastructures for Environmental Protection, 1293

Landslide Hazard Evaluation: The Landslide Hazard Curves, 628

Roadside maintenance

Asset Management Framework for Geotechnical Infrastructure, 852

Robotics

Automated Path Planning of Cooperative Crane Lifts Using Heuristic Search, 147

Construction Robot Path-Planning for Earthwork Operations, 136

Rock bolts

100-Ton (890 kN) Rock Anchor Pullout Test, 1496

Rock masses

Characterization of Strength and Deformation of Jointed Rock Mass Based on Statistical Analysis, 16

Numerical Study of Scale Effects on the Stiffness Modulus of Rock Masses, 28

Probability of Failure Occurrence and Recurrence in Rock Slopes Stability Analysis, 15

Rockfill structures

Testing and Modeling Two Rockfill Materials, 598

Rocks

Failure Process of Granite, 20

Fluvial Entrainment of Protruding Fractured Rock, 783

Numerical Simulation on Damage and Failure of Brittle Rocks under Different Confining Pressures, 37 Site Response at Treasure and Yerba Buena Islands.

Site Response at Treasure and Yerba Buena Islands, California, 619

Rods

Experimental and Analytical Behavior of Carbon Fiber-Based Rods as Flexural Reinforcement, 164 Experimental Seismic Study of Adjacent Buildings with Fluid Dampers, 1105

Roller compacted concrete

Building the Olivenhain, 1558

Cold Weather Placement of RCC, 974

Roofs

Computer Assistance in Managing the Maintenance of Low-Slope Roofs, 150

Hershey Arena: Anton Tedesko's Pioneering Form, 1113

Inelastic Seismic Response of Frame Fasteners for Steel Roof Deck Diaphragms, 1247

Inelastic Seismic Response of Side Lap Fasteners for Steel Roof Deck Diaphragms, 1246

Statistics of Single-Degree-of-Freedom Estimate of Displacement for Pushover Analysis of Buildings, 1128

Wide Open, 1602

Roofs, cable

An Unconventional Approach, 1594

Rotation

Performance of Rotating Spray Plate Sprinklers in Indoor Experiments, 900

Rotational Restraint of Pile Caps during Lateral Loading, 656

Testing of Steel Pipes under Bending, Twist, and Shear, 1216

Roughness

Hydraulic Design of Large-Diameter Pipes, 779

Roughness coefficient

Role of Resistance Coefficient in Seasonal Adjustments in Alluvial Rivers, 787

Routes

Optimal Time Transfer in Bus Transit Route Network Design using a Genetic Algorithm, 1345

Transit Route Network Design using Frequency Coded Genetic Algorithm, 1305

Routing

Dispersion Coefficient of Streams from Tracer Experiment Data, 506

Reservoir Routing using Steady and Unsteady Flow through Rockfill Dams, 740

Rubber

Crumb Rubber-Bitumen Interactions: Cold-Stage Optical Microscopy, 1011

Physical and Chemical Properties of Recycled Tire Shreds for Use in Construction, 551

Rubble-mound breakwaters

Armor Stone Abrasion due to Displacements in Sea Storms, 1453

Performance of Coastal Structures against Sequences of Hurricanes, 1452

Runoff

Hydrologic Behavior of Residual Soil Slopes in Singapore, 813

Peak Discharge Scaling in Small Hortonian Watershed, 806

Runoff coefficient

Hydrologic Impacts of Distrubed Lands Treated with Dust Suppressants, 830

Kinematic Wave Model of Urban Pavement Rainfall-Runoff Subject to Traffic Loadings, 518

Pural areas

Evaluating a Detection and Warning System to Deter No-Passing Zone Violations, 1354

Regional Analysis of Nonmethane Volatile Organic Compounds in the Lower Troposphere of the Southeast United States, 570

Role of the Engineer in Rural Municipalities, 949

Safety

CBR Model for Freeway Work Zone Traffic Management, 1299

Estimating Safety Benefits of Road Improvements: Case Based Approach, 1329

New Pipeline Technologies, Security, and Safety, 1628 Quality, Environmental, and Health and Safety Man-

agement Systems for Construction Engineering, 261 Scorecard Approach to Benchmarking Organizational Safety Culture in Construction, 207

Safety factors

Factors that Influence Safety Performance of Specialty Contractors, 215

New Approach to Limit Equilibrium and Reliability Analysis of Soil Nailed Walls, 26

Predictive Tool for Estimating Accident Risk, 246

Salinity

Method for Normalization of Soil Salinity Data, 866 Projected Sulfate Redistribution as Impacted by Lake Level Stabilization Scenarios: Devils Lake, North Dakota, 1416

Regional Water Management Modeling for Decision Support in Irrigated Agriculture, 905

Salt water

A Higher Profile, 1563

Salt water intrusion

Determination of Critical Head in Soil Piping, 748

Numerical Modeling of Saline Intrusion in Salar de Atacama, 802

Sampling

Estimating Characteristics of Rainfall and their Effects on Sampling Schemes: Case Study for Han River Basin, Korea, 814

Sampling Adjustment Factors for Rainfall Recorded at Fixed Time Intervals, 832

Weighted-Climate Parametric Hydrologist Forecasting, 817

San Francisco

Cyclic Testing of Built-Up Steel Shear Links for the New Bay Bridge, 1163

Reconstructing Contaminant Deposition in a San Francisco Bay Marina, California, 522

Transforming Crissy Field, 1553

Sand

Behavior of Hydrocarbon Reservoir Sands and Sandstones, 676

Behavior of Open- and Closed-Ended Piles Driven into Sands, 607

Centrifuge Modeling of Nonaqueous Phase Liquid Movement and Entrapment in Unsaturated Layered Soils, 595

Closely Spaced Footings on Geogrid-Reinforced Sand, 641

Determination of Bearing Capacity of Open-Ended Piles in Sand, 582

Effect of Compressive Load on Uplift Capacity of Model Piles, 673

Effects of Consolidation History on Critical State of Sand, 612

Effects of Cross Anisotropy on Three-Dimensional Behavior of Sand. 1: Stress-Strain Behavior and Shear Banding, 301

Effects of Cross Anisotropy on Three-Dimensional Behavior of Sand. II: Volume Change Behavior and Failure, 302 Effects of the Erosion and Transport of Fine Particles

due to Seepage Flow, 22 Estimation of Load Capacity of Pipe Piles in Sand

Based on Cone Penetration Test Results, 617 Extended Hyperbolic Model for Sand-to-Concrete Interfaces, 674

Goodbye, Hazen; Hello, Kozeny-Carman, 680 High Overburden Stress Effects in Liquefaction Analyses, 683

Liquefaction Centrifuge Modeling of Sands of Different Permeability, 684

Liquefaction Resistance of Clean and Nonplastic Silty Sands Based on Cone Penetration Resistance, 671 Particle Size Distribution of Lunar Soil, 670

Pressure-Level Dependency and Densification Behavior of Sand through Generalized Plasticity Model, 377

Properties of Field Manufactured Cast-Concrete Products Utilizing Recycled Materials, 1008

Relating K_n to Relative State Parameter Index, 650 Settling Characteristics of Calcareous Sand, 745

Shaft Resistance of Single Vertical and Batter Piles
Drive in Sand, 635

Strain Localization in Sand: Plane Strain versus Triaxial Compression, 625

Strain-Rate Effect on Soil Secant Shear Modulus at Small Cyclic Strains, 630

Surface-Based Transport Model for Mixed-Size Sediment, 705 Triaxial Compression of Sand Reinforced with Fibers, 590

Triaxial Testing of Frozen Sand: Equipment and Example Results, 122

Uplift Behavior of Blade-Underreamed Anchors in Silty Sand, 632

Variable Bulk Modulus Constitutive Model for Sand, 593

Sand filters

Performance, Cost, and Maintenance Requirements of Austin Sand Filters. 1402

Sandstone

Behavior of Hydrocarbon Reservoir Sands and Sandstones, 676

Direct Shear Test of Sandstone-Concrete Joints, 14

Sandwich structures

Control of Wave Propagation in Sandwich Plate Rows with Periodic Honeycomb Core, 389

Sanitary sewers

The Case for Cleaning, 1546

Satellite communications

FPGA Based Satellite Adaptive Image Compression System, 52

Satellites

Active Magnetic Control Methods for Small Satellite, 42

Generation of Digital Orthophotos from IKONOS Satellite Images, 1266

Saturated soils

Effect of Soil Stress on Cadmium Transport in Saturated Soils, 1480

Laboratory Study of Loose Saturated and Unsaturated Decomposed Granitic Soil, 631

Lateral Loaded Pile Response in Liquefiable Soil, 618

Saudi Arabia

Volume Change Behavior of Arid Calcareous Soils, 1529

Scale effect

Flow Conditions of Undular Hydraulic Jumps in Horizontal Rectangular Channels, 790

Numerical Study of Scale Effects on the Stiffness Modulus of Rock Masses, 28

Two-Phase Flow Characteristics of Stepped Spillways, 761

Scheduling

Agent-Based Compensatory Negotiation Methodology to Facilitate Distributed Coordination of Project Schedule Changes, 128

Comparison of Linear Scheduling Model and Repetitive Scheduling Method, 204 Constraint-Based Planning with Integrated Production

Scheduler over Internet, 232

Dynamic Optimal Unit Commitment and Loading in

Hydropower Systems, 1415
Evaluating Risk in Construction—Schedule Model
(ERIC-S): Construction Schedule Risk Model, 256

Integrated Electronic Commerce Model for the Construction Industry, 263

Multicriteria Optimization for Infectious Medical Waste Collection System Planning, 1470

New Method for Calculating Path Float in Program Evaluation and Review Technique (PERT), 254 No-Damages-for-Delay Clause: Evaluating Contract Delay Risk, 1083

Optimal Pump Scheduling in Water Supply Systems with Maximum Demand Charges, 1413

Optimal Scheduling of Multiple Chlorine Sources in Water Distribution Systems, 1424

Optimized Scheduling of Linear Projects, 272

Phantom Float, 255

Resource-Activity Critical-Path Method for Construction Planning, 244

Schools

Sustainability in Public Facilities: Analysis of Guidance Documents, 1037

Scour

Coherent Structures in Flat-Bed Abutment Flow: Computational Fluid Dynamics Simulations and Experiments, 710

Design Method of Time-Dependent Local Scour at Circular Bridge Pier, 737

Effect of Jet Air Content on Plunge Pool Scour, 730

Hydraulics of Submerged Jet Subject to Change in Cohesive Bed Geometry, 696

Influence of Cohesion on Scour under Sumerged Circular Vertical Jets, 798

Phenomenological Characterization of Vortex Induced Scour, 793

Scour Vulnerability of River Bridge Piers, 663

Sealants
Effects of Excessive Pavement Joint Opening and
Freezing on Sealants, 1336

Sealing

Effectiveness of Preventative Maintenance Treatments using Fourteen SPS-3 Sites in Texas, 1050

Seasonal variations

Modeling and Forecasting Vehicular Traffic Flow as a Seasonal ARIMA Process: Theoretical Basis and Empirical Results, 1363

Role of Resistance Coefficient in Seasonal Adjustments in Alluvial Rivers, 787

Seasonal Prediction with Error Estimation of Columbia River Streamflow in British Columbia, 1394

Secondary flow

Dean Equations Extended to a Rotating Helical Pipe Flow, 373

Investigation on the Suitability of Two-Dimensional Depth-Averaged Models for Bend-Flow Simulation, 756

Security

Infrastructure Issues for Cities—Countering Terrorist Threat, 845

New Pipeline Technologies, Security, and Safety, 1628 Water Utility Security: Multiple Hazards and Multiple Barriers, 849

World Water & Environmental Resources Congress 2003 and Related Symposia, 1648

Sediment

Application of Ergun Equation to Computation of Critical Shear Velocity Subject to Seepage, 889

Automated Sewer and Drainage Flushing Systems in Cambridge, Massachusetts, 719

Characteristics of Hyperconcentrated Sediment-Laden Flows, 442

- Cluster Evolution and Flow-Frictional Characteristics under Different Sediment Availabilities and Specific Gravity, 412
- Dredging '02: Key Technologies for Global Prosperity, 1613
- European Research into Sewer Sediments and Associated Pollutants and Processes, 720
- Fractionation and Segregation of Suspended Particles using Acoustic and Flow Fields, 492
- Investigation of Cadmium Desorption from Different-Sized Sediments, 471
- Periodic Diffusional Mass Transfer near Sediment/ Water Interface: Theory, 495
- Reconstructing Contaminant Deposition in a San Francisco Bay Marina, California, 522
- Rolling and Lifting Probabilities for Sediment Entrainment, 704
- Simple Equations to Calculate Fall Velocity and Sediment Scale Parameter, 1443
- A Simple formula to Estimate Settling Velocity of Natural Sediments, 1435
- Validation of Existing Bed Load Transport Formulas using In-Sewer Sediment, 727

Sediment concentration

Sediment Concentration Distribution of Debris Flow, 795

Sediment control

- Aspect Ratio to Maximize Sediment Transport in Rigid Bank Channels, 788
- Sewer-Sediment Control: Overview of an Environmental Protection Agency Wet-Weather Flow Research Program, 718

Sediment deposits

- Geotechnical Aspects of Eroded Sediments Relevant to Tailings Disposal Design, 1525
- Modeling In-Sewer Deposit Erosion to Predict Sewer Flow Quality, 726
- Modeling the Erosion of Mixtures of Organic and Granular In-Sewer Sediments, 725
- Preventing Sediment Deposition in Inverted Sewer Siphons, 722

Sediment discharge

Total Load Transport Formula for Flow in Alluvial Channels, 699

Sediment transport

- Aspect Ratio to Maximize Sediment Transport in Rigid Bank Channels, 788
- Beach-Profile Evolution under Spilling and Plunging Breakers, 1432
- Bed-Load Transport Equation for Sheet Flow, 709 Bedload Transport in Alluvial Channels, 773
- Bedload Transport in Gravel-Bed Streams with Unimodal Sediment, 785
- Coping with Uncertainty: A Case Study in Sediment
- Transport and Nutrient Load Analysis, 1411 Effect of Floodwater Extraction on Mountain Stream
- Morphology, 784

 Experimental Study of Bed Load Transport through Emergent Vegetation, 744
- Fluid-Particle Interactions and Resuspension in Simple Shear Flow, 794
- Hydraulics of Submerged Jet Subject to Change in Cohesive Bed Geometry, 696

- Incipient Motion of Bivalve Shells on Sand Beds under Flowing Water, 309
- Influence of Turbulence on Bed Load Sediment Transport, 755
- Longshore Sediment Transport Rates on a Microtidal Estuarine Beach, 1427
- Measurements of Sediment Erosion and Transport with the Adjustable Shear Stress Erosion and Transport Flume, 782
- Movement of Total Suspended Solids in Combined Sewers, 724
- Particle Densimetric Froude Number for Estimating Sediment Transport, 738
- Role of Wave Pressure in Bedload Sediment Transport, 1455
- Sand Transport on Steeply Sloping Plane and Rippled Beds, 766
- Self-Cleansing Sewer Design Based on Sediment Transport Principles, 721
- Shear Stress Distribution in Partially Filled Pipes, 765 Surface-Based Transport Model for Mixed-Size Sediment, 705
- Three-Dimensional CFD Modeling of Self-Forming Meandering Channel, 731
- Total Load Transport Formula for Flow in Alluvial Channels, 699
- Urban Storm Sewer Design: Approach in Consideration of Sediments, 723

Sedimentation

- Bed Shear Stress Boundary Condition for Storage Tank Sedimentation, 521
- Sphere Drag and Settling Velocity Revisited, 469 Watershed Management, 1647

Seepage

- Application of Ergun Equation to Computation of Critical Shear Velocity Subject to Seepage, 889
- Application of Fuzzy Sets Method to Identify Seepage Path through Dams, 753
- Determination of Critical Head in Soil Piping, 748
- Effects of the Erosion and Transport of Fine Particles due to Seepage Flow, 22

Segmented elements

Statistical Approach to Road Segmentation, 1319

Seismic analysis

- Influence of Hysteretic Behavior on Equivalent Period and Damping of Structural Systems, 1140
- Seismic Analysis and Design with Maxwell Dampers, 314
- Unbonded Posttensioned Concrete Bridge Piers. II: Seismic Analyses, 82

Seismic design

- Active Multiple Tuned Mass Dampers: A New Control Strategy, 1178
- Damage Spectra: Characteristics and Applications to Seismic Risk Reduction, 1214
- Dynamics of a Class of Horizontal Setback Buildings,
- Improving Seismic Design Efficiency of Petrochemical Facilities, 1505
- Inclination Factors for Seismic Bearing Capacity, 660
- Overstrength and Ductility Factors for Steel Frames Designed According to BS 5950, 1183

- Potential for Structural Failure in the Seismic Near Field, 384
- Seismic Analysis and Design with Maxwell Dampers, 314
- Seismic Design of Structures by Bundled Columns, 438
- Seismic Evaluation of Existing Buildings, 1637
- Seismic Retrofit of Shear Walls with Headed Bars and Carbon Fiber Wrap, 1143
- Standard Practice for the Design and Operation of Hail Suppression Projects, 1642
- Steel Semirigid Column-Tree Moment Resisting Frame Seismic Behavior, 1205

Seismic effects

- Damage Spectra: Characteristics and Applications to Seismic Risk Reduction, 1214
- Dynamic Instability of Simple Structural Systems, 1255
- Keyblock Stability in Seismically Active Rock Slopes—Snake Path Cliff, Masada, 645
- Subset Simulation and its Application to Seismic Risk Based on Dynamic Analysis, 382
- Water Utility Security: Multiple Hazards and Multiple Barriers, 849

Seismic hazard

- Advancing Mitigation Technologies and Disaster Response for Lifeline Systems, 1605
- Impact of River Channelization on Seismic Risk: Shelby County, Tennessee, 1518
- Probabilistic Basis for 2000 SAC Federal Emergency Management Agency Steel Moment Frame Guidelines, 6
- Seismic Screening Checklists for Water and Wastewater Facilities, 1638
- Standard Practice for the Design and Operation of Hail Suppression Projects, 1642

Seismic isolation

- Assessment of Performance of Seismic Isolation System of Bolu Viaduct, 91
- Fault Tolerance of Semiactive Seismic Isolation, 1173

Seismic response

- Analytical Modeling, System Identification, and Tracking Performance of Uniaxial Seismic Simulators, 441
- Behavior of Roof Deck Diaphragms under Quasistatic Cyclic Loading, 1248
- Design of Amplified Structural Damping using Optimal Considerations, 1224
- Earthquake Response of Elastic Single-Degree-of-Freedom Systems with Nonlinear Viscoelastic Dampers, 348
- Effects of Finish Materials and Dynamic Loading on the Cyclic Response of Woodframe Shearwalls, 1221
- Evaluation of Seismic Performance for Tunnel Retrofit Project, 633
- Experimental Seismic Study of Adjacent Buildings with Fluid Dampers, 1105
- Inclined Plane Studies of the Newmark Sliding Block Procedure, 643
- Inelastic Seismic Response of Frame Fasteners for Steel Roof Deck Diaphragms, 1247
- Inelastic Seismic Response of Side Lap Fasteners for Steel Roof Deck Diaphragms, 1246

- Influence of Hysteretic Behavior on Equivalent Period and Damping of Structural Systems, 1140
- Phase I Benchmark Control Problem for Seismic Response of Cable-Stayed Bridges, 1167
- Pseudo-Dynamic Testing of Unreinforced Masonry Building with Flexible Diaphragm, 1153
- Quasi-Static Reversed Cyclic Response of Level and Stepped Cripple Walls, 1139
- Refined Solutions of Externally Induced Sloshing in Half-Full Spherical Containers, 429 Seismic Behavior of Curtain Walls Containing Insulat-
- ing Glass Units, 63 Seismic Damage and Collapse Assessment of Compos-
- ite Moment Frames, 7 Seismic Response of Concentrically Braced Steel Frames Made with Rectangular Hollow Bracing Members, 1245
- Site Response at Treasure and Yerba Buena Islands, California, 619

Seismic stability

- Control of Seismically Excited Cable-Stayed Bridge Employing Magnetorheological Fluid Dampers, 1168
- Fiber-Sizing-Based Enhancement of Materials Durability for Seismic Retrofit, 178
- Seismic Performance of Precast Reinforced and Prestressed Concrete Walls, 1114

Seismic tests

Analytical Modeling, System Identification, and Tracking Performance of Uniaxial Seismic Simulators, 441

Sensitivity analysis

- Atmospheric Momentum Roughness Applied to Stage-Discharge Relationships in Flood Plains, 810 Consistent Finite-Element Response Sensitivity Analy-
- sis, 430
 Evamining Sensitivity of Impact of Taxi Traffic on
- Examining Sensitivity of Impact of Taxi Traffic on Capacity and Delays at Urban Road Sections, 1317
- Form Finding of Sparse Structures with Continuum Topology Optimization, 1253
- Sensitivity Analysis and Comparative Performance of Outfalls with Single Buoyant Plumes, 462
- Structural Damage Detection and Assessment from Modal Response, 299

Sensors

- Analysis of Fiber Optic Traffic Sensors in Flexible Pavements, 1349
- Design of Piezoresistive MEMS-Based Accelerometer for Integration with Wireless Sensing Unit for Structural Monitoring, 49
- Dielectric Properties of Asphalt Pavement, 1012
- Fiber Optic Sensors for Bridge Monitoring, 112
- Integrated Microelectromechanical Gyroscopes, 45 Internal Strain Measurements in Concrete Elements by
- Fiber Optic Sensors, 975
- Laboratory Evaluation of Fiber-Optic Sensors for Strain Monitoring, 1006
- Mathematical Modeling and Simulation of Dissolvable Hydrogels, 44
- Two-Dimensional Micromachined Flow Sensor Array for Fluid Mechanics Studies, 47

Separation

Three-Dimensional Modeling of Negatively Buoyant Flow in Diverging Channels, 789

Sequencing batch reactor

Sodium Inhibition of Thermophilic Methanogens, 502

Computer Assistance in Managing the Maintenance of Low-Slope Roofs, 150

Life-Cycle Environmental Effects of an Office Building, 857

Prediction of Remaining Service Life of Bridge Decks using Machine Learning, 127

Optimal S-N Testing for Variable-Amplitude Fatigue Applications, 1166

Serviceability

Dynamic Measurements of In-Place Steel Floors to Assess Vibration Performance, 1049

Effects of False Floors on Vibration Serviceability of Building Floors. I: Modal Properties, 1044

Effects of False Floors on Vibration Serviceability of Building Floors. II: Response to Pedestrian Excitation, 1045

Incremental Nonlinear Model for Predicting Pavement Serviceability, 1359

Probabilistic Model for Marine Corrosion of Steel for Structural Reliability Assessment, 1231

Theoretical Study on Short-Term and Long-Term Deflections of Fiber Reinforced Polymer Prestressed Concrete Beams, 187

Toward Load and Resistance Factor Design for Fiber-Reinforced Polymer Composite Structures, 1127

Using Fuzzy Clustering of User Perception to Define Levels of Service at Signalized Intersections, 1362

Levels of Service for Stairway in Hong Kong Underground Stations, 1306

Composite Compressibility Model for Municipal Solid Waste, 614

Finite Element Studies of Asphalt Concrete Pavement Reinforced with Geogrid, 371

Plate Load Test on Fiber-Reinforced Soil, 669 Rockfill Modulus and Settlement of Concrete Face Rockfill Dams, 665

Settling velocity

Deposition Properties of Fine Sediment, 716

Settling Characteristics of Calcareous Sand, 745

Simple Equations to Calculate Fall Velocity and Sediment Scale Parameter, 1443

A Simple formula to Estimate Settling Velocity of Natural Sediments, 1435

Sphere Drag and Settling Velocity Revisited, 469

Sewage

European Research into Sewer Sediments and Associated Pollutants and Processes, 720

Modeling the Erosion of Mixtures of Organic and Granular In-Sewer Sediments, 725

Sewage sludge

Evaluation of Color Changes in Sewage Sludge Ash Brick by using Image Analysis Method, 1485

Sewage treatment plants

Electrochemical Pretreatment of Wastewater from Color Photograph Processing Unit, 567 Lagoon Effluent Treatment using Grass Filtration, 563

Sewer design

Self-Cleansing Sewer Design Based on Sediment Transport Principles, 721

Urban Storm Sewer Design: Approach in Consideration of Sediments, 723

Sewer maintenance

The Case for Cleaning, 1546

Sewer pipes

Shear Stress Distribution in Partially Filled Pipes, 765

Automated Sewer and Drainage Flushing Systems in Cambridge, Massachusetts, 719

Costs of Best Management Practices and Associated Land for Urban Stormwater Control, 1385

Hydraulic Performance Index of a Sewer Network, 747

Modeling In-Sewer Deposit Erosion to Predict Sewer Flow Quality, 726

Preventing Sediment Deposition in Inverted Sewer Siphons, 722

Sewer-Sediment Control: Overview of an Environmental Protection Agency Wet-Weather Flow Research Program, 718

Validation of Existing Bed Load Transport Formulas using In-Sewer Sediment, 727

Shaft resistance, piles

Performance of Long Rectangular Barrettes in Granitic Saprolites, 644

Shaft Resistance of Single Vertical and Batter Piles Drive in Sand, 635

AUA Guidelines for Backfilling and Contact Grouting of Tunnels and Shafts, 1609

Correlation Survey for Shaft Deepening in Digwadih Underground Coal Mine, 1260

Shallow foundations

Evaluation of Cone Penetration Test-Based Settlement Prediction Methods for Shallow Foundations on Cohesionless Soils at Highway Bridge Construction Sites, 664

Inclination Factors for Seismic Bearing Capacity, 660

Shallow water

Explicit Schemes for Dam-Break Simulations, 694

Field Verification of Two-Dimensional Surface Irrigation Model, 902

Two-Dimensional Basin Flow with Irregular Bottom Configuration, 901

Geometry of Submerged Funicular Arches in Cartesian Coordinates, 1189

Interpolants within Convex Polygons: Wachspress' Shape Functions, 38

Shapes of Submerged Funicular Arches, 297

Behavior of Reinforced Concrete Beams with Loss of Bond at Longitudinal Reinforcement, 1219

Effects of Cross Anisotropy on Three-Dimensional Behavior of Sand. 1: Stress-Strain Behavior and Shear Banding, 301

Effects of Cross Anisotropy on Three-Dimensional Behavior of Sand. II: Volume Change Behavior and Failure, 302

Shear Analysis of Concrete with Brittle Reinforcement,

Testing of Steel Pipes under Bending, Twist, and Shear, 1216

Shear deformation

Buckling and Postbuckling of Antisymmetrically Laminated Cross-Ply Shear-Deformable Cylindrical Shells under Axial Compression, 295

Matrix Analysis of Shear Lag and Shear Deformation in Thin-Walled Box Beams, 386

Shear distribution

Design for Shear in Curved Composite Multiple Steel Box Girder Bridges, 87

Lateral Stiffness of Brick Masonry Infilled Plane Frames, 1187

Shear flow

Electrorheological and Magnetorheological Duct Flow in Shear-Flow Mode using Herschel-Bulkley Constitutive Model, 437

Fluid-Particle Interactions and Resuspension in Simple Shear Flow, 794

Shear forces

Assessment of Shear Forces on Bridge Abutments: Simplified Method, 74

Plastic Resistance of Pipe Sections: Upper Bound Solution, 1088

Shear lag

Matrix Analysis of Shear Lag and Shear Deformation in Thin-Walled Box Beams, 386

Shear modulus

Quantitative Effect of Elastomeric Modification on Binder Performance at Intermediate and High Temperatures, 963

Shear resistance

Alternative Shear Reinforcement for Reinforced Concrete Flat Slabs, 1197

Application of Construction and Building Debris as Base and Subbase Materials in Rigid Pavement, 1350

Bond Geometry and Shear Strength of Steel Plates Bonded to Concrete on Heating, 1031

External Prestressing Concrete Columns for Improved Seismic Shear Resistance, 1186

Shear strain

Postcyclic Degradation of Strength and Stiffness for Low Plasticity Silt, 649

Shear strength

Deposition Properties of Fine Sediment, 716

Evaluation of Cyclic Shear Strength of Two Cemented Calcareous Soils, 636

General Strength Criterion for Geomaterials, 36 Inclination Factors for Seismic Bearing Capacity, 660

New Design Rule for Intermediate Transverse Stiffeners Attached on Web Panels, 1243

Plastic Limit, Liquid Limit and Undrained Shear Strength of Soil—Reappraisal, 651

Punching Shear Behavior of Fiber Reinforced Polymers Reinforced Concrete Flat Slabs: Experimental Study, 184

Punching Shear Strengthening of Reinforced Concrete Flat Plates using Carbon Fiber Reinforced Polymers, 1198 Reinforced Concrete T-Beams Strengthened in Shear with Fiber-Reinforced Polymer Sheets, 189

Relationship of Compressibility Parameters to Municipal Solid Waste Decomposition, 691

Retrofit of Reinforced Concrete Columns using Partially Stiffened Steel Jackets, 1155

Seismic Retrofit of Shear Walls with Headed Bars and Carbon Fiber Wrap, 1143

Shear Capacity of Fiber-Reinforced Polymer-Strengthened Reinforced Concrete Beams: Fiber Reinforced Polymer Rupture, 1144

Shear Compression Failure in Reinforced Concreted Deep Beams, 1137

Translational Failure Analysis of Landfills, 627 Yield Strength Ratio and Liquefaction Analysis of Slopes and Embankments, 647

hear stress

Bed Shear Stress Boundary Condition for Storage Tank Sedimentation, 521

Failure Behavior and Separation Criterion for Strengthened Concrete Members with Steel Plates, 1200

Fluctuations of Turbulent Bed Shear Stress, 298 Relating K, to Relative State Parameter Index, 650

Shear Stress Distribution in Partially Filled Pipes, 765 Straight Benthic Flow-Through Flume for In Situ

Measurement of Cohesive Sediment Dynamics, 698
Testing Block Probes for Wall Shear Stress Measurement in Water Flows, 703

Shear tests

Direct Shear Test of Sandstone-Concrete Joints, 14
Plastic Limit, Liquid Limit and Undrained Shear
Strength of Soil—Reappraisal, 651

Shear walls

Development and Application of Wood Shear Wall Reliability Model, 1124

Effects of Finish Materials and Dynamic Loading on the Cyclic Response of Woodframe Shearwalls, 1221

Effects of Loading Protocol on the Cyclic Response of Woodframe Shearwalls, 1220

Experimental Study on Steel Shear Wall with Slits, 1141

Plastic Analysis and Design of Steel Plate Shear Walls, 1227

Reliability of Frame and Shear Wall Structural Systems. 1: Static Loading, 1108

Reliability of Frame and Shear Wall Structural Systems. II: Dynamic Loading, 1109

Seismic Retrofit of Shear Walls with Headed Bars and Carbon Fiber Wrap, 1143

Shear waves

In Situ Estimate of Shear Wave Velocity using Borehole Spectral Analysis of Surface Waves Tool, 629

Sheet piles

Flexural and Shear Rigidity of Composite Sheet Piles, 194

Sheet Pile Tensions in Cellular Structures, 600

Sheets

Cyclic Flexure Tests of Masonry Walls Reinforced with Glass Fiber Reinforced Polymer Sheets, 159

Flexural Behavior of R/C Beams Strengthened with Carbon Fiber Reinforced Polymer Sheets or Fabric, 188

- Reinforced Concrete T-Beams Strengthened in Shear with Fiber-Reinforced Polymer Sheets, 189
- Repair of Damaged Steel-Concrete Composite Girders using Carbon Fiber-Reinforced Polymer Sheets, 190
- Tension Stiffening and Crack Formation in Reinforced Concrete Members with Fiber-Reinforced Polymer Sheets, 1154

Shell structures

Nonlinear Buckling Simulations of Imperfect Chell Domes by Mixed Finite Elements, 361

Shell

- Incipient Motion of Bivalve Shells on Sand Beds under Flowing Water, 309
- Lead Removal from Acidic Solutions by Sorption on Cocoa Shells: Effect of Some Parameters, 525
- Spline Semidiscretization Analysis for Orthotropic Plates and Shells, 290

Ship motion

Field Measurement of Ship Waves in Victoria Harbor, 405

Shine

Behavior of a Moored LNG Ship in Swell Waves, 1429

Shock

Practical Aspects in Comparing Shock-Capturing Schemes for Dam Break Problems, 711

Shock waves

- Flow Conditions of Undular Hydraulic Jumps in Horizontal Rectangular Channels, 790
- On-Line Measure of Shockwaves for ITS Applications, 1283

Shore protection

- Advances in Coastal Structure Design, 1604
- Urban Beaches: Balancing Public Rights and Private Development, 1646

Shores

Second-Order Radiation Boundary Condition for Water Wave Simulation with Large Angle Incidence, 434

Shrinkage

- Effect of Creep and Shrinkage on RC Frames with High Beam Stiffness, 1136
- High-Volume Fly Ash Concrete with High Strength and Low Drying Shrinkage, 978
- Influence of Long-Term Loads on Concrete Column Strength, 1500
- Shrink Test-Water Content Method for Shrink and Swell Predictions, 634
- Tension Stiffening and Cracking of Steel Fiber-Reinforced Concrete, 981

Sign supports

Repair of Cracked Aluminum Overhead Sign Structures with Glass Fiber Reinforced Polymer Composites 170

Silos

Numerical Investigation of Statistical Properties of Microslips in Silos, 352

Silts

- Effects of Silt on Three-Dimensional Stress-Strain Behavior of Loose Sand, 579
- Examples of Settlement in Structures Constructed on Tidal Silt in Coastal Areas of Southeast China, 1508 Goodbye, Hazen; Hello, Kozeny-Carman, 680

- Particle Size Distribution of Lunar Soil, 670
- Postcyclic Degradation of Strength and Stiffness for Low Plasticity Silt, 649

Silty soil

- Liquefaction Resistance of Clean and Nonplastic Silty Sands Based on Cone Penetration Resistance, 671
- Uplift Behavior of Blade-Underreamed Anchors in Silty Sand, 632

Simple shear tests

Strain-Rate Effect on Soil Secant Shear Modulus at Small Cyclic Strains, 630

Simulation

- Analytical Modeling, System Identification, and Tracking Performance of Uniaxial Seismic Simulators, 441
- Application of Fuzzy Logic to Simulation for Construction Operations, 131
- Application of System Dynamics in Car-Following Models, 1358
- Bioslurping Model for Assessing Light Hydrocarbon Recovery in Contaminated Unconfined Aquifer. 1: Simulation Analysis, 1474
- Case Study: Impact of Reservoir Stratification on Interflow Travel Time, 792
- Cohesive Fracturing and Stresses Caused by Hydration Heat in Massive Concrete Wall, 286
- Combining Dynamic Relaxation Method with Artificial Neural Networks to Enhance Simulation of Tensegrity Structures, 1149
- Comparative Study of Two Nitrogen Models, 864
- Comparing Driver Information Systems in a Dynamic Modeling Framework, 1288
- Coupled Mechanical and Chemical Damage in Calcium Leached Cementitious Structures, 321
- Determining Traffic Stream Impacts of Radar Detectors using Microscopic Simulation, 1284
- European Research into Sewer Sediments and Associated Pollutants and Processes, 720
- Evaluating a Detection and Warning System to Deter No-Passing Zone Violations, 1354
- Explicit Schemes for Dam-Break Simulations, 694
- HKCONSIM: A Practical Simulation Solution to Planning Concrete Plant Operations in Hong Kong, 259
- Hybrid Fuzzy-Stochastic Modeling Approach for Assessing Environmental Risks at Contaminated Groundwater Systems, 452
- Impacts of Shorter Perception-Reaction Time of Adapted Cruise Controlled Vehicles on Traffic Flow and Safety, 1300
- Inelastic Behavior and Ductility Capacity of Reinforced Concrete Bridge Piers under Earthquake. II: Numerical Validation, 1202
- Inexact Multiphase Modeling System for the Management of Subsurface Contamination under Uncertainty, 1471
- Integrated Modeling of Anaerobic Fluidized Bed Bioreactor for Deicing Waste Treatment. II: Simulation and Experimental Studies, 455
- Integrated Simulation-Optimization Approach for Real-Time Dynamic Modeling and Process Control of Surfactant-Enhanced Remediation at Petroleum-Contaminated Sites, 1472
- Integrated Subsurface Modeling and Risk Assessment of Petroleum-Contaminated Sites in Western Canada, 544

Mathematical Modeling and Simulation of Dissolvable Hydrogels, 44

Modeling and Control of Oxygen Transfer in High Purity Oxygen Activated Sludge Process, 489

Modeling the Construction Management Process to Support Situational Simulations, 154

Non-Gaussian Simulation: Cumulative Distribution Function Map-Based Spectral Correction, 433

Numerical Simulation of Dual-Phase Vacuum Extraction to Remove Nonaqueous Phase Liquids in Subsurface, 1473

Numerical Simulation on Damage and Failure of Brittle Rocks under Different Confining Pressures, 37

Proposed Methodology of Optimizing Transitioning between Time-of-Day Timing Plans, 1330

Reliability of Frame and Shear Wall Structural Systems. I: Static Loading, 1108

Resource Optimization using Combined Simulation and Genetic Algorithms, 276

Simplified Discrete-Event Simulation Approach for Construction Simulation, 258

Simulation Analysis for Midterm Yard Planning in Container Terminal, 1447

Simulation and Control of Chlorine Levels in Water Distribution Networks, 1393

Simulation for Ground Movements due to Pipe Burst-

Simulation Modeling and Variability Assessment of Delays at Traffic Signals, 1304

Simulation of Two-Dimensional Aggregate Distribution with Wall Effect, 1022

Smooth Convex Three-Dimensional Particle for the Discrete-Element Method, 341

Steepest Descent Method for Representing Spatially Correlated Uncertainty in GIS, 1280

Subset Simulation and its Application to Seismic Risk Based on Dynamic Analysis, 382

Two-Phase Fluids Model for Freeway Traffic Flow and its Application to Simulate Evolution of Solitons in Traffic, 1289 Validation of a Predictive Form of Horton Infiltration

for Simulating Furrow Irrigation, 903 Volumetric Deformation of Natural Clays, 35

Water Reservoir Control with Data Mining, 1382

Simulation models

Estimating Earthwork Volumes of Curved Roadways: Simulation Model, 1258

Estimating Uncertainty in the Extreme Value Analysis of Data Generated by a Hurricane Simulation Model,

Highway-Rail Quad Gate Operation Time by System Simulation of Dynamic Dilemma Zone, 1313

Impact of Dynamic and Safety-Conscious Route Gui-dance on Accident Risk, 1327

Modeling Immune Building Systems for Bioterrorism Defense, 64

Object-Oriented Simulation Model for Earthmoving Operations, 217

Poromechanics of Anisotropic Hollow Cylinders, 419 Reservoir Simulations of Synthetic Rain Floods for the Sacramento and San Joaquin River Basins, 1420

Ship Traffic Modeling Methodology for Ports, 1449

Two-Dimensional Simulation Model for Contour Basin Layouts in Southeast Australia. 1: Rectangular Basins, 893

Two-Dimensional Simulation Model for Contour Basin Layouts in Southeast Australia. II: Irregular Shape and Multiple Basins, 894

Singapore

Assessment of Highway Bridge Upgrading by Dynamic Testing and Finite-Element Model Updating, 89

Development and Application of Oil Spill Model for Singapore Coastal Waters, 746

Hydrologic Behavior of Residual Soil Stones in Singapore. 813

Impacts of Obstacles in East Asian Cross-Border Construction, 212

Overstrength and Ductility Factors for Steel Frames Designed According to BS 5950, 1183

Singapore on the Move, 1596

Sinkholes

Prediction of Undrained Sinkhole Collapse, 597 Sinkholes and the Engineering and Environmental Impacts of Karst, 1639

Preventing Sediment Deposition in Inverted Sewer Siphons, 722

Site investigation

Probabilistic Site Characterization at the National Geotechnical Experimentation Sites, 1632

Fiber-Sizing-Based Enhancement of Materials Durability for Seismic Retrofit, 178

Size effect

Asymptotic Matching Analysis of Scaling of Structural Failure Due to Softening Hinges. II: Implications,

Effects of Material Toughness and Plate Thickness on Brittle Fracture of Steel Members, 1230

Estimation of Load Capacity of Pipe Piles in Sand Based on Cone Penetration Test Results, 617

Fluctuations of Turbulent Bed Shear Stress, 298

Skid resistance

Effect of Aggregate Spacing on Skid Resistance of Asphalt Pavement, 1333

Finite-Element Modeling of Skid Resistace Test, 1321

Connectors for Timber-Lightweight Concrete Composite Structures, 1237

Local Effects Induced by Longitudinal Forces in Composite Girders, 100

Moment Magnifier Method for Long-Term Behavior of Flat Plates Subjected to In-Plane Compression, 1093

Punching Shear Behavior of Fiber Reinforced Polymers Reinforced Concrete Flat Slabs: Experimental Study, 184

Shear Strengthening of Interior Slab-Column Connections using Carbon Fiber-Reinforced Polymer Sheets, 173

Two Main Methods for Yield Line Analysis of Slabs, 308

Ultimate Strength of Ribbed Slab Composite Beams with Web Openings, 1164

Use of Fibers and Welded-Wire Reinforcement in Construction of Slabs on Ground, 1498

Slag

Substitution of Fly Ash, Slag, and Chemical Admixtures in Concrete Mix Designs, 1033

Slenderness ratio

Stability of Stiffened Plates with Initial Imperfections, 365

Sliding

Experiments on a Full-Scale Building Model using Modified Sliding Mode Control, 325

Inclined Plane Studies of the Newmark Sliding Block Procedure, 643

Slip

Influence of Bond Slip on Crack Spacing in Numerical Modeling of Reinforced Concrete, 1234

Numerical Investigation of Statistical Properties of Microslips in Silos, 352

A Second Look at Taylor's Stability Chart, 686

Steel-Concrete Composite Beams Considering Shear Slip Effects, 1132

Slope stability

Geographic Information Systems-Based Three-Dimensional Critical Slope Stability Analysis and Landslide Hazard Assessment, 687

Geotechnical Aspects of Eroded Sediments Relevant to Tailings Disposal Design, 1525

Interpretation of Slope Movements Induced by Adjacent Large Landslide in Northern Italy, 1526

Keyblock Stability in Seismically Active Rock Slopes—Snake Path Cliff, Masada, 645 Landslide Hazard Evaluation: The Landslide Hazard

Curves, 628
Probability of Failure Occurrence and Recurrence in

Rock Slopes Stability Analysis, 15
Residual Shear Strength Mobilized in First-Time Slope

A Second Look at Taylor's Stability Chart, 686

Slopes

Failures, 580

Creep Modeling in Excavation Analysis of a High Rock Slope, 658

Drainage of Sloping Lands with Variable Recharge Model Validation and Applications, 890

Hydrologic Behavior of Residual Soil Slopes in Singapore, 813

Inclined Plane Studies of the Newmark Sliding Block Procedure, 643

Pond Water Source for Irrigation on Steep Slopes, 879 Sand Transport on Steeply Sloping Plane and Rippled Beds, 766

Strain Distribution within Geosynthetic-Reinforced Slopes, 581

Three-Dimensional Analysis of Nonhomogeneous Slopes, 591

Yield Strength Ratio and Liquefaction Analysis of Slopes and Embankments, 647

Sloshing

Refined Solutions of Externally Induced Sloshing in Half-Full Spherical Containers, 429

Sludge

Biodegradation of Mixtures of Phenolic Compounds in an Upward-Flow Anaerobic Słudge Blanket Reactor, 560

Excess Sludge Production in Membrane Bioreactors: A Theoretical Investigation, 477 Laboratory Pilot Test of Chromium (III) Isolation from Acid Extract of Tannery Sludge, 1468

Laminar Pipeline Flow of Wastewater Studge: Computational Fluid Dynamics Approach, 708

Sludge digestion

Use of an Anaerobic Sludge Digestion Process to Treat Pentachlorophenol-(PCP-) Contaminated Soil, 572

Sludge disposal

Natural Stabilization of Stored Industrial Sludges, 472

Thermal Stabilization of Iron-Rich Sludge for High Strength Aggregates, 1030

Sludge treatment

Bacterial Leaching of Metals from Tannery Sludge by Indigenous Sulphur-Oxidizing Bacteria—Effect of Sludge Solids Concentration, 503

Nitrification in Pure Oxygen Activated Sludge Systems, 457

Slurries

Interaction of Particles and Near-Wall Lift in Slurry Pipelines, 700

Total and Volatile Polyaromatic Hydrocarbon Losses during Aerobic Slurry Phase Biotreatment, 1482

Slurry walls

Holding Up. 1578

Waste Immobilization Technologies, 1467

Social factors

Prayer in Disaster: Case Study of Christian Clergy, 1520

Social impact

Assessing Community Impacts of Natural Disasters, 1539

Bridge Construction in Guatemala: Linking Social Issues and Engineering, 1071

Sodium

Simulation of Municipal Solid Waste Incinerator Ash/ Cement Systems by Means of Factorial Experiments, 566

Sodium Inhibition of Thermophilic Methanogens, 502

Soft soil

Soil Behavior and Soft Ground Construction, 1640

Softening

Asymptotic Matching Analysis of Scaling of Structural Failure Due to Softening Hinges. 1: Theory, 353

Asymptotic Matching Analysis of Scaling of Structural Failure Due to Softening Hinges. II: Implications, 354

Confinement-Shear Lattice Model for Concrete Damage in Tension and Compression: I. Theory, 435

Confinement-Shear Lattice Model for Concrete Damage in Tension and Compression: II: Computation and Validation, 436

Scale Transition in Steel-Concrete Interaction. 1: Model, 328

Soil cement

Performance Characteristics of Soil-Cement from Industry Waste Binder, 1035

Soil compressibility

Effects of Kiln Ash on the Compressibility of Residual Lateritic Soils 554

Soil deformation

Accuracy of Digital Image Correlation for Measuring Deformations in Transparent Media, 135

Evaporation Theory for Deformable Soils, 677

Triaxial Testing of Frozen Sand: Equipment and Example Results, 122

Soil dynamics

Computational Model for Cyclic Mobility and Associated Shear Deformation, 688

In Situ Estimate of Shear Wave Velocity using Borehole Spectral Analysis of Surface Waves Tool, 629

Soil gas

Estimation of Operation Time for Soil Vapor Extraction Systems, 545

Nonequilibrium Nonaqueous Phase Liquid Mass Transfer Model for Soil Vapor Extraction Systems, 532

Soil improvement

Effects of Kiln Ash on the Compressibility of Residual Lateritic Soils, 554

Thermochemomechanical Assessment of Ground Improvement by Jet Grouting in Tunneling, 387

Soil layers

Identification of Statistically Homogenous Soil Layers Using Modified Bartlett Statistics, 640

Soil mechanics

Modified Shear Spring Formulation for Discontinuous Deformation Analysis of Particulate Media, 374

Recent Advances in Materials Characterization and Modeling of Pavement Systems, 1633

Soil Behavior and Soft Ground Construction, 1640

Soil nailing

Behavior of Calculated Nail Head Strength in Soil-Nailed Structures, 655

New Approach to Limit Equilibrium and Reliability Analysis of Soil Nailed Walls, 26

Simplified Trial Wedge Method for Soil Nailed Wall Analysis, 589

Soil pollution

Amphoteric Effect of Humic Acids in Surfactant-Aided Photolysis of Polychlorobiphenyls, 528

Analysis of Heavy Metal Contaminated Soils, 1462 Complex Dielectric Permittivity of Soil-Organic Mix-

tures (20 MHz-1.3 GHz), 483 Contaminant Transport in Fissured Soils by Three-Dimensional Boundary Elements, 19

Detecting Landfill Leachate Contamination using Soil Electrical Properties, 1461

Effect of Soil Stress on Cadmium Transport in Saturated Soils, 1480

Field and Laboratory Evaluation of the Impact of Tall Fescue on Polyaromatic Hydrocarbon Degradation in an Aged Creosote-Contaminated Surface Soil, 470

Iodide-Enhanced Electrokinetic Remediation of Mercury-Contaminated Soils, 575

Mercury-Contaminated Soil Remediation by Iodide and Electroreclamation, 494

Multiple-Porosity Model for the Transport of Reactive Contaminants in Fissured Soils with Nonequilibrium Partitioning, 30

Nonequilibrium Nonaqueous Phase Liquid Mass Transfer Model for Soil Vapor Extraction Systems, 532 Preliminary Evaluation of Microbially Mediated Precipitation of Cadmium, Chromium, and Nickel by Rhizosphere Consortium, 443

Removal of Trichloroethylene from Clay Soil by Series-Electrokinetic Process, 1464

Total and Volatile Polyaromatic Hydrocarbon Losses during Aerobic Slurry Phase Biotreatment, 1482

Soil properties

Characterization of Heterogeneous Soils using Surface Waves: Homogenization and Numerical Modeling, 17

Frozen Ground Engineering, 1616

Nonlinear Dynamic Properties of a Fibrous Organic Soil, 667

Probabilistic Site Characterization at the National Geotechnical Experimentation Sites, 1632

Soil Behavior and Soft Ground Construction, 1640

Soil resistance

Measurement of Evaporation on Bare Soil and Estimating Surface Resistance, 577

Soil settlement

Use of Jet Grouting to Limit Diaphragm Wall Displacement of a Deep Excavation, 592

Soil stabilization

Reuse of Incinerator Fly Ash in Soft Soil Stabilization, 1001

Soil stresses

Effect of Soil Stress on Cadmium Transport in Saturated Soils, 1480

Soil suction

Suction Caisson Capacity in Anisotropic, Purely Cohesive Soil, 34

Soil treatment

Estimation of Operation Time for Soil Vapor Extraction Systems, 545

Iodide-Enhanced Electrokinetic Remediation of Mercury-Contaminated Soils, 575

Remediation of Contaminated Soils by Surfactant-Aided Soil Washing, 1463

Retention and Distribution of 1-Naphthol and Naphthol Polymerization Products on Surface Soils, 565 Sequentially Enhanced Electrokinetic Remediation of

Heavy Metals in Low Buffering Clayey Soils, 604 Stabilization/Solidification of High Mercury Wastes with Reactivated Carbon, 1465

Use of an Anaerobic Sludge Digestion Process to Treat Pentachlorophenol-(PCP-) Contaminated Soil, 572

Soil water

Allocation of Scarce Water Resources using Deficit Irrigation in Rotational Systems, 876

Estimating Soil Moisture under Low Frequency Surface Irrigation using Crop Water Stress Index, 862

Mapping Root Zone Soil Moisture using Remotely Sensed Optical Imagery, 895

Measurement of Evaporation on Bare Soil and Estimating Surface Resistance, 577

Soil Water Content Monitoring using Electromagnetic Induction, 678

Soil Water Retention and Conductivity when Vapor Flow is Important, 881

Synchrotron Radiation for Detecting Movement of a Volatile Soil Liquid, 499 Validation of a Predictive Form of Horton Infiltration for Simulating Furrow Irrigation, 903

Soil-pile interaction

- Behavior of Pile Groups Subject to Excavation-Induced Soil Movement, 583
- Evaluation of Pile Diameter Effect on Initial Modulus of Subgrade Reaction, 601

Soils

- Deformation Patterns of Reinforced Foundation Sand at Failure, 621
- Dynamic Soil Stiffnesses at Side of Embedded Structures with Rectangular Base, 388
- Effect of Soil Type on Electrokinetic Removal of Phenanthrene using Surfactants and Cosolvents, 482
- Erosion Hazards Index for Lateritic Soils, 1528
- Formulation of Mix Design for Asphaltic Incorporation of Hydrocarbon Contaminated Soil, 980
- Method for Normalization of Soil Salinity Data, 866 Multivariate Study on Phenanthrene Sorption in Soils,
- 564 Particle Size Distribution of Lunar Soil, 670
- Performance Indices for Surface N Fertigation, 878
- Plastic Limit, Liquid Limit and Undrained Shear Strength of Soil—Reappraisal, 651
- Plate Load Test on Fiber-Reinforced Soil, 669
- Reappraisal of Marston's Formula, 1367
- Site Response at Treasure and Yerba Buena Islands, California, 619
- Theoretical Elastic-Plastic Solution for Laterally Loaded Piles, 624

Soil-structure interaction

- Extended Hyperbolic Model for Sand-to-Concrete Interfaces, 674
- Kinematic Soil-Structure Interaction from Strong Motion Recordings, 610
- Pile response to Lateral Spreads: Centrifuge Modeling,

Solar radiation

Predicting Daily Net Radiation using Minimum Climatological Data, 887

Solid waste management

- Detecting Landfill Leachate Contamination using Soil Electrical Properties, 1461
- Evaluation of Solid Waste Management System using Fuzzy Composition, 504

Solid wastes

- Carbonation of Municipal Solid Waste Incineration Fly Ash and the Impact on Metal Mobility, 493
- Chloride Ion in Groundwater near Disposal of Solid Wastes in Landfills, 821
- Composite Compressibility Model for Municipal Solid Waste, 614
- Effects of Oxygen on Pyrolysis Kinetics of Tetra Pack, 487
- Modeling Temperature Effects on Decomposition, 576 Relationship of Compressibility Parameters to Munici-
- pal Solid Waste Decomposition, 691 Reuse of Incinerator Fly Ash in Soft Soil Stabilization, 1001

Solidification

Leaching Behavior of Lead, Chromium (III), and Zinc in Cement/Metal Oxides Systems, 505

- Nonlinear Creep Damage Model for Concrete under Uniaxial Compression, 398
- Simulation of Municipal Solid Waste Incinerator Ash/ Cement Systems by Means of Factorial Experiments, 566
- Solidification/Stabilization of Hazardous Wastes Containing Metals and Organic Contaminants, 485
- Waste Immobilization Technologies, 1467

Solids flow

Sediment Concentration Distribution of Debris Flow, 795

Solitary waves

- Comparison of Laboratory and Theoretical Internal Solitary Wave Kinematics, 1451
- Energy Balance Model for Breaking Solitary Wave Runup, 1433

Solutes

- Effects of Flow Depth on Water Flow and Solute Transport in Furrow Irrigation: Field Data Analysis, 885
- Modeling Uncoupled Solute Transport in Natural Organic Matter Size Fractionation by Ultrafiltration, 447
- Parameter Estimation of the Transient Storage Model for Stream-Subsurface Exchange, 496

Solutions

Effects of Humic Materials on Photodegradation of Chlorinated Aromatic Dye in Surfactant Solution, 501

Sorntion

- Correlation of Rheological Properties to Durability and Strength of Hardened Concrete, 1007
- Effect of Soil Type on Electrokinetic Removal of Phenanthrene using Surfactants and Cosolvents, 482
- Modeling of Moisture Behavior of Wood Planks in Nonvented Flat Roofs, 60

South Carolina

- Electric Power Distribution System Performance in Carolina Hurricanes, 1522
- Prayer in Disaster: Case Study of Christian Clergy,
- Projecting Building Inventory Changes and the Effect on Hurricane Risk, 1379

Southeastern United States

Regional Analysis of Nonmethane Volatile Organic Compounds in the Lower Troposphere of the Southeast United States, 570

Space structures

- Adjustable Tensegrity Structures, 1134
- H₂ Energy Estimate of Boundary Controlled Vibrating Hybrid Structure Subject to Uncertain Forces, 50

Spacecraft

Characterizing Debris Clouds Created in Oblique Orbital Debris Particle Impact, 56

Spacing

- Closely Spaced Footings on Geogrid-Reinforced Sand.
- Constructing Second-Order Models of Mechanical Systems from Identified State Space Realizations. Part 1: Theoretical Discussions, 336
- Constructing Second-Order Models of Mechanical Systems from Identified State Space Realizations. Part II: Numerical Investigations, 337

Spacing

- Drainage of Sloping Lands with Variable Recharge Model Validation and Applications, 890
- Effect of Aggregate Spacing on Skid Resistance of Asphalt Pavement, 1333
- Performance of Rotating Spray Plate Sprinklers in Indoor Experiments, 900
- Real-Time Image Thresholding Based on Sample Space Reduction and Interpolation Approach, 153

Spain

- Evidence of High Vertical Wave-Number Behavior in a Continuously Stratified Reservoir: Boadella, Spain, 768
- Stabilization of Electrical Arc Furnace Dust with Low-Grade MgO Prior to Landfill, 475
- Water Delivery System Planning Considering Irrigation Simultaneity, 886

Spatial analysis

Estimation of Urban Imperviousness and its Impacts on Storm Water Systems, 1418

Spectral density function

Updating Properties of Nonlinear Dynamical Systems with Uncertain Input, 285

Speed

Impact of Stops on Vehicle Fuel Consumption, 1286

Speed control

- Determining Traffic Stream Impacts of Radar Detectors using Microscopic Simulation, 1284
- Variable-Frequency Drive Applications in Nonmakeup-Air Exhaust Systems, 69

Spheres

Sphere Drag and Settling Velocity Revisited, 469

Spillways

- Effect of Jet Air Content on Plunge Pool Scour, 730
- Hydraulic Design of Stepped Spillways, 762
- Two-Phase Flow Characteristics of Stepped Spillways,

Splitting

Concrete Uniaxial Tensile Strength and Cylinder Splitting Test, 1151

Spread foundations

- Evaluation of Cone Penetration Test-Based Settlement Prediction Methods for Shallow Foundations on Cohesionless Soils at Highway Bridge Construction Sites, 664
- Single Piles in Lateral Spreads: Field Bending Moment Evaluation, 662

Sprinkler irrigation

- Performance of Rotating Spray Plate Sprinklers in Indoor Experiments, 900
- Water Stress Detection under High Frequency Sprinkler Irrigation with Water Deficit Index, 863

Sprinklers

- Computing Inlet Pressure Head of Multioutlet Pipeline, 910
- Optimal Design of Multidiameter, Multioutlet Pipelines, 1401
- Performance of Rotating Spray Plate Sprinklers in Indoor Experiments, 900

2003 ASCE TRANSACTIONS

Stability

- Determination of Optimum Ingredients for Phosphogypsum Composite Stability under Marine Conditions-Response Surface Analysis with Process Variables, 484
- Effects of Stiffeners on Nonlinear Stability of Self-Erecting Dome, 1089
- Elastic Stability and Second-Order Analysis of Three-Dimensional Frames: Effects of Column Orientation, 417
- Prediction of Undrained Sinkhole Collapse, 597
- Role of Resistance Coefficient in Seasonal Adjustments in Alluvial Rivers, 787
- Stability of Periodically Unsteady Axisymmetric Jet,
- Stability of Slender Webs of Prestressed Concrete Box-Girder Bridges, 86
- Three-Dimensional Analysis of Nonhomogeneous Slopes, 591
- Three-Dimensional Lower Bound Solutions for Stability of Plate Anchors in Clay, 602
- Undrained Stability of Braced Excavations in Clay, 648

Stability analysis

Lateral-Torsional Buckling of Stepped Beams, 1228 Simplified Trial Wedge Method for Soil Nailed Wall Analysis, 589

Stability criteria

- Buckling of Columns with Intermediate Elastic Restraint, 310
- Exact Buckling Solutions for Rectangular Plates under Intermediate and End Uniaxial Loads, 375
- Stability Criteria for Euler Columns with Intermediate and End Axial Loads, 335

Stabilization

- Carbonation of Municipal Solid Waste Incineration Fly Ash and the Impact on Metal Mobility, 493
- Factors Influencing the Strength of Cement Fly Ash Base Courses, 1348
- Leaching Behavior of Lead, Chromium (III), and Zinc in Cement/Metal Oxides Systems, 505
- Mechanical Stabilization of Cemented Soil—Fly Ash Mixtures with Recycled Plastic Strips, 553
- Natural Stabilization of Stored Industrial Sludges, 472 Simulation of Municipal Solid Waste Incinerator Ash/ Cement Systems by Means of Factorial Experiments, 566
- Solidification/Stabilization of Hazardous Wastes Containing Metals and Organic Contaminants, 485
- Stabilization of Electrical Arc Furnace Dust with Low-Grade MgO Prior to Landfill, 475

Stadiums

Wide Open, 1602

Stainless steel

- Experimental Investigation of Cold-Formed Stainless Steel Columns, 1102
- Lap Splice Steel Connections with Stainless Steel Nails, 1206
- Strength Curves for Metal Plates in Compression, 1225
- An Unconventional Approach, 1594

Stair

Levels of Service for Stairway in Hong Kong Underground Stations, 1306

Standardization

Standardization of Methods for Fluence (UV Dose)
Determination in Bench-Scale UV Experiments, 467

Standards

Comparison of Reference Evapotranspiration Calculations as Part of the ASCE Standardization Effort, 906

Construction in Hong Kong: Success Factors for ISO9000 Implementation, 265

ISO9000 Implementation, 265
Implications of Applying Statistically Based Procedures for Water Quality Assessment, 1409

ISO 9000 and the U.S. Construction Industry, 946 Seismic Evaluation of Existing Buildings, 1637

Standing waves

Experimental Study of a Horizontal Jet in a Wavy Environment, 406

Fractionation and Segregation of Suspended Particles using Acoustic and Flow Fields, 492

State government

Florida DOT Project-Level Bridge Management Models, 110

Regulated Riparian Model Water Code, 1635

Static loads

Behavior of Open- and Closed-Ended Piles Driven into Sands, 607

Drilled Shaft Defects: Detection, and Effects on Capacity in Varved Clay, 689

Reliability of Frame and Shear Wall Structural Systems. 1: Static Loading, 1108

Static tests

Static and Fatigue Behavior of Reinforced Concrete Beams Strengthened with Steel Plates for Flexure, 1135

Statics

Lap Splice Steel Connections with Stainless Steel Nails, 1206

Stationary processes

Identification of Statistically Homogenous Soil Layers Using Modified Bartlett Statistics, 640

Statistical analysis

Characterization of Strength and Deformation of Jointed Rock Mass Based on Statistical Analysis, 16 Design Wind Speed Prediction, 1208

Method for Forensic Analysis of Residential Floor-

Elevation Data, 1047 Numerical Investigation of Statistical Properties of

Microslips in Silos, 352 Statistical Approach to Road Segmentation, 1319

Statistical Prediction of Atmospheric Corrosion from Atmospheric-Pollution Parameters, 1483

Stress-Strain Relations and Modulus of Elasticity of Two-Stage Concrete, 1000

Statistical models

Statistical Modeling of Overtopping for Extreme Waves on Fixed Deck, 1445

Statistics

Identification of Statistically Homogenous Soil Layers Using Modified Bartlett Statistics, 640

Implications of Applying Statistically Based Procedures for Water Quality Assessment, 1409

Joint Seasonal/Annual Flood Frequency Analysis, 818

Probabilistic Model for Marine Corrosion of Steel for Structural Reliability Assessment, 1231

Simplified Cone Penetration Test-Based Method for Evaluating Liquefaction Resistance of Soils, 584

Trends in United States Tidal Datum Statistics and Tide Range, 1444

Wind Speeds in ASCE 7 Standard Peak-Gust Map: Assessment, 1125

Steady flow

Free Overfall in Inverted Semicircular Channels, 739 Overfall in U-Shaped Channels, 324

Stability of Periodically Unsteady Axisymmetric Jet, 346

Steady state models

Concentrations of Pressure between an Elastically Supported Beam and a Moving Timoshenko-Beam, 399

Stool

Application of Fiber-Reinforced Polymer Overlays to Extend Steel Fatigue Life, 192

Atmospheric Corrosion Resistance of Structural Steels, 961

Biaxial Failure Model for Fiber Reinforced Concrete, 1034

Corrosion of Steel Bars in Cracked Concrete under Marine Environment, 1016

Corrosion of Steel Reinforcement in Carbon Fiber-Reinforced Polymer Wrapped Concrete Cylinders, 193

Dynamic Measurements of In-Place Steel Floors to Assess Vibration Performance, 1049

Effectiveness of Impresssed Current Technique to Simulate Corrosion of Steel Reinforcement in Concrete, 964

Experimental Studies on the Properties of Constructional Steel at Elevated Temperatures, 1254

Experimental Study on Steel Shear Wall with Slits, 1141

Fatigue Strength of Steel Girders Strengthened with Carbon Fiber-Reinforced Polymer Patch, 1104

Inelastic Cyclic Model for Steel Braces, 342 Lateral Buckling Strengths of Steel Angle Section Beams, 1161

Location of Prestressing Steel Fractures in Concrete,

Longitudinal Plate and through Plate-to-Hollow Structural Section Welded Connections, 1130

Long-Term Behavior and Strength of Partially Encased Composite Columns Made with Built-Up Steel Shapes, 1099

Manual Procedures for Least-Weight Design of King-Post Truss Systems, 1513

Modeling Confinement Efficiency of Reinforced Concrete Columns with Rectilinear Transverse Steel using Artificial Neural Networks, 1160

Plastic Analysis and Design of Steel Plate Shear Walls, 1227

Probabilistic Model for Marine Corrosion of Steel for Structural Reliability Assessment, 1231

Repair of Damaged Steel-Concrete Composite Girders using Carbon Fiber-Reinforced Polymer Sheets, 190

Scale Transition in Steel-Concrete Interaction. I: Model, 328

Shear Connection Nonlinearity and Deflections of Steel-Concrete Composite Beams: A Simplified Method, 1085 Shell of Steel, 1561

Strengthening of Steel-Concrete Composite Girders using Carbon Fiber Reinforced Polymers Sheets, 1087

Stress Measurement and Defect Detection in Steel Strands by Guided Stress Waves, 987

Welded Tee-to-HSS Connections, 1100

Steel beams

Local Buckling Tests on Cold-Formed Steel Beams, 1242

Local Web Buckling Strength of Coped Steel I Beams, 1084

Steel columns

Analytical Fire Resistance of Axially Restrained Steel Columns, 1236

Concrete-Filled Hollow Structural Steel Columns after Exposure to ISO-834 Fire Standard, 1091

Experimental Investigation of Cold-Formed Stainless Steel Columns, 1102

Experimental Study and Calculation of Fire Resistance of Concrete-Filled Hollow Steel Columns, 1119

Strength of Concrete Filled Steel Box Columns Incorporating Interaction Buckling, 1145

Steel construction

Strength of Concrete Filled Steel Box Columns Incorporating Interaction Buckling, 1145

Steel fibers

Retrofitting of Reinforced Concrete Beams with CAR-DIFRC, 176

Use of Fibers and Welded-Wire Reinforcement in Construction of Slabs on Ground, 1498

Steel frames

Automated Design of Steel Frames using Advanced Analysis and Object-Oriented Evolutionary Computation, 1147

Elastoplastic Large Deflection Analisis of Three-DImensional Steel Frames, 1207

Experimental Investigations of Bailey Bridges, 109

Fire Resistance of Walls and Floors using Light-Gauge Steel Shapes, 1235

Hybrid Beam-Column Element with End Frictional Joints, 344

Nonlinear Elastoplastic Analysis of Semirigid Steel Frames at Elevated Temperature: MP Approach, 1148

Overstrength and Ductility Factors for Steel Frames Designed According to BS 5950, 1183

Plastic Limit Temperatures of Flexibly Connected Steel Frames: A Linear Programming Problem, 1092

Probabilistic Basis for 2000 SAC Federal Emergency Management Agency Steel Moment Frame Guidelines, 6

Reliability of Frame and Shear Wall Structural Systems. 1: Static Loading, 1108

Reliability of Frame and Shear Wall Structural Systems. 11: Dynamic Loading, 1109

Seismic Response of Concentrically Braced Steel Frames Made with Rectangular Hollow Bracing Members, 1245

Steel Semirigid Column-Tree Moment Resisting Frame Seismic Behavior, 1205

Summary of a Large- and Small-Scale Unreinforced Masonry Infill Test Program, 1249 Three-Strut Model for Concrete Masonry-Infilled Steel Frames, 1103

Steel pipes

Plastic Resistance of Pipe Sections: Upper Bound Solution, 1088

Testing of Steel Pipes under Bending, Twist, and Shear, 1216

Steel plates

Bond Geometry and Shear Strength of Steel Plates Bonded to Concrete on Heating, 1031

CFRP Composite Connector for Concrete Members, 165

Failure Behavior and Separation Criterion for Strengthened Concrete Members with Steel Plates, 1200

Static and Fatigue Behavior of Reinforced Concrete Beams Strengthened with Steel Plates for Flexure,

Steel structures

Can Less Be More?, 1598

Effects of Material Toughness and Plate Thickness on Brittle Fracture of Steel Members, 1230

Extreme Wind Design of Self-Supported Steel Structures: Critical Review of Related ASCE Publications, 1504

Inelastic Seismic Response of Frame Fasteners for Steel Roof Deck Diaphragms, 1247

Inelastic Seismic Response of Side Lap Fasteners for Steel Roof Deck Diaphragms, 1246 Rotational Stiffness of Rectangular Hollow Sections

Composite Joints, 1131 Stiffening

Compression Tests of Channels with Inclined Simple Edge Stiffeners, 1222

Effects of Stiffeners on Nonlinear Stability of Self-Erecting Dome, 1089

New Design Rule for Intermediate Transverse Stiffeners Attached on Web Panels, 1243

Scale Transition in Steel-Concrete Interaction. I: Model, 328

Tension Stiffening and Cracking of Steel Fiber-Reinforced Concrete, 981

Stiffness

Behavior of Hydrocarbon Reservoir Sands and Sandstones, 676

Cyclic Load Tests and Analysis of Bolted Top-and-Seat Angle Connections, 1244

Degradation of Stiffness of Cemented Calcareous Soil in Cyclic Triaxial Tests, 637 Dynamic Soil Stiffnesses at Side of Embedded Struc-

tures with Rectangular Base, 388

Dynamic Stiffness Modulus for Pavement Subgrade
Evaluation, 1335

Effect of Creep and Shrinkage on RC Frames with High Beam Stiffness, 1136

Effect of Reduced Beam Section Frame Elements on Stiffness of Moment Frames, 1122

Forensic Evaluation of Premature Failures of Texas Specific Pavement Study-1 Sections, 1043

Numerical Study of Scale Effects on the Stiffness Modulus of Rock Masses, 28

Postcyclic Degradation of Strength and Stiffness for Low Plasticity Silt, 649

Rotational Stiffness of Rectangular Hollow Sections Composite Joints, 1131 Theoretical Study on Short-Term and Long-Term Deflections of Fiber Reinforced Polymer Prestressed Concrete Beams, 187

Stilling basins

Development of Efficient Stilling Basins for Pipe Outlets, 880

Stochastic models

Adaptive Optimization of Infrastructure Maintenance and Inspection Decisions under Performance Model Uncertainty, 854

Design Wind Speed Prediction, 1208

Stochastic processes

Empirical-Mechanistic Method-Based Stochastic Modeling of Fatigue Damage to Predict Flexible Pavement Cracking for Transportation Infrastructure Management, 1296

Linear Stochastic Dynamical System under Uncertain Load: Inverse Reliability Analysis, 356

Non-Gaussian Simulation: Cumulative Distribution Function Map-Based Spectral Correction, 433

Response of Continuous System with Stochastically Varying Surface Roughness to Moving Load, 366

A Study of Two Stochastic Search Methods for Structural Control, 140

Stones

Armor Stone Abrasion due to Displacements in Sea Storms, 1453

Long-Term Performance of Stone Interlayer Pavement, 1297

Properties of Field Manufactured Cast-Concrete Products Utilizing Recycled Materials, 1008

Storage coefficient

Storage Coefficient and Transmissivity from Residual Drawdowns, 759

Storage tanks

Bed Shear Stress Boundary Condition for Storage Tank Sedimentation, 521

Refined Solutions of Externally Induced Sloshing in Half-Full Spherical Containers, 429

Storm runoff

Controlling Storm-Water Runoff with Tradable Allowances for Impervious Surfaces, 1417

Ecology Ditch: A Best Mangement Practice for Storm Water Runoff Mitigation, 811

"First Flush," Power Law and Particle Separation Diagrams for Urban Storm-Water Suspended Particulates, 478

Kinematic Wave Model of Urban Pavement Rainfall-Runoff Subject to Traffic Loadings, 518

Modeling Storm Water Mass Emissions to the Southern California Bight, 479

A Retrofit for Long Lake, 1562

Simple Estimation of Prevalence of Hortonian Flow in New York City Watersheds, 822

Storm sewers

Design of Circular Urban Storm Sewer Systems using Multilinear Muskingum Flow Routing Method, 778

Urban Storm Sewer Design: Approach in Consideration of Sediments, 723

Storm surges

Performance of Coastal Structures against Sequences of Hurricanes, 1452

Storms

Armor Stone Abrasion due to Displacements in Sea Storms, 1453

Estimating Overwater Friction Velocity and Exponent of Power-Law Wind Profile from Gust Factor during Storms, 1446

Stormwater

Kinematic Wave Model of Urban Pavement Rainfall-Runoff Subject to Traffic Loadings, 518

Modeling Storm Water Mass Emissions to the Southern California Bight, 479

Stormwater management

Controlling Storm-Water Runoff with Tradable Allowances for Impervious Surfaces, 1417

Costs of Best Management Practices and Associated Land for Urban Stormwater Control, 1385

Effects of Stormwater Infiltration on Quality of Groundwater Beneath Retention and Detention Basins, 497

Estimation of Urban Imperviousness and its Impacts on Storm Water Systems, 1418

"First Flush," Power Law and Particle Separation Diagrams for Urban Storm-Water Suspended Particulates, 478

Movement of Total Suspended Solids in Combined Sewers, 724

Strain

Consolidation of Clays for Variable Permeability and Compressibility, 675

Dynamic Bending Strains in Planar Trusses with Pinned or Rigid Joints, 320

Global Congruency Test Methods for GPS Networks, 1270

Heterogeneous Strain and Bonded Granular Structure Change in Triaxial Specimen Studied by Computer Tomography, 421

Influence of Bond Slip on Crack Spacing in Numerical Modeling of Reinforced Concrete, 1234

Neural Network Modeling of Confined Compressive Strength and Strain of Circular Concrete Columns, 1138

Performance of Axially Loaded Short Rectangular Columns Strengthened with Carbon Fiber-Reinforced Polymer Wrapping, 179

Stress and Strain Concentration Factors of Completely Overlapped Tubular K(N) Joints, 1086

Undrained Response of Clays to Varying Strain Rate, 605

Strain distribution

Strain Distribution within Geosynthetic-Reinforced Slopes, 581

Strain gages

Full-Scale Testing of Procedures for Assembling Trunnion-Hub-Girder in Bascule Bridges, 94

Laboratory Evaluation of Fiber-Optic Sensors for Strain Monitoring, 1006

Strain measurement

Full-Scale Testing of Procedures for Assembling Trunnion-Hub-Girder in Bascule Bridges, 94

Internal Strain Measurements in Concrete Elements by Fiber Optic Sensors, 975

Strain rate

Rate-Dependent Hyperplasticity with Internal Functions, 312

Strain rate

Strain-Rate Effect on Soil Secant Shear Modulus at Small Cyclic Strains, 630

Strategic planning

Strategic Management: Consideration of Paradoxes, Processes, and Associated Concepts as Applied to Construction, 960

Stratification

Case Study: Impact of Reservoir Stratification on Interflow Travel Time, 792

Dynamics of Large Polymictic Lake. 1: Field Observations, 701

Dynamics of Large Polymictic Lake. II: Numerical Simulations, 702

Stratified flow

Field Experiment Study of Transient Stratified Flow in an Estuary, 413

Fluid-Particle Interactions and Resuspension in Simple Shear Flow, 794

Stream erosion

Scour Vulnerability of River Bridge Piers, 663

Stream improvement

Design for Stream Restoration, 754

Stroamflou

Conjunctive-Management Models for Sustained Yield of Stream-Aquifer Systems, 1383

Estimating Instantaneous Peak Flow from Mean Daily Flow Data, 840

State-Space Discretization of the Kalinin-Milyukov-Nash-Cascade in a Sample-Data System Framework for Streamflow Forecasting, 837

Stream

Dispersion Coefficient of Streams from Tracer Experiment Data, 506

Effects of Aquifer Anisotropy on the Migration of Infiltrated Stream Water to a Pumping Well, 831

Estimation of Aquifer Diffusivity from Stream Stage Variation, 801

Explicit Estimation of Aquifer Diffusivity from Linear Stream Stage, 742

Field-Data Analysis for Stream Depletion, 824

Flow Depletion of Semipervious Streams Due to Pumping, 907

Modeling Approach to Periphyton and Nutrient Interaction in a Stream, 541

Parameter Estimation of the Transient Storage Model for Stream-Subsurface Exchange, 496

Regression Model for Daily Maximum Stream Temperature, 523

Removal of Mercury from Low-Concentration Aqueous Streams using Chemical Reduction and Air Stripping, 539

Unsteady Stream Depletion when Pumping from Semiconfined Aquifer, 800

Strength

Behavior of Hydrocarbon Reservoir Sands and Sandstones, 676

Characterization of Strength and Deformation of Jointed Rock Mass Based on Statistical Analysis, 16

High-Volume Fly Ash Concrete with High Strength and Low Drying Shrinkage, 978

Improving the Strength and Ductility of Rectangular Reinforced Concrete Columns through Composite Partial Interaction: Tests, 1199 Load-Duration Behavior of Wood-Plastic Composites, 1024

Local Web Buckling Strength of Coped Steel I Beams, 1084

Long-Term Behavior and Strength of Partially Encased Composite Columns Made with Built-Up Steel Shapes, 1099

Stress

Cohesive Fracturing and Stresses Caused by Hydration Heat in Massive Concrete Wall, 286

High Overburden Stress Effects in Liquefaction Analyses, 683

Model for Nonlinear Thermal Effect on Pavement Warping Stresses, 1366

Model Validation for Bridge-Road-Vehicle Dynamic Interaction System, 83

Stress and Strain Concentration Factors of Completely Overlapped Tubular K(N) Joints, 1086

Variable Bulk Modulus Constitutive Model for Sand, 593

Water Stress Detection under High Frequency Sprinkler Irrigation with Water Deficit Index, 863

Stress analysis

Full-Scale Testing of Procedures for Assembling Trunnion-Hub-Girder in Bascule Bridges, 94

Pavement Response and Rutting for Full Scale and Scaled APT, 1337

Stress Solution of Multiple Elliptic Hole Problem in Plane Elasticity, 431

Stress concentration

Stress Solution of Multiple Elliptic Hole Problem in Plane Elasticity, 431

Stress measurement

Stress Measurement and Defect Detection in Steel Strands by Guided Stress Waves, 987

Stress strain curves

Analytical Models for Concrete Confined with FRP Tubes, 160

Stress strain relations

Behavior of Laterally Loaded Large-Section Barrettes, 639

Effects of Cross Anisotropy on Three-Dimensional Behavior of Sand. 1: Stress-Strain Behavior and Shear Banding, 301

Effects of Cross Anisotropy on Three-Dimensional Behavior of Sand. II: Volume Change Behavior and Failure, 302

Effects of Silt on Three-Dimensional Stress-Strain Behavior of Loose Sand, 579

Modeling the Stress-Strain Relations of Sand in Cyclic Plane Strain Loading, 622

Stress-Strain Relations and Modulus of Elasticity of Two-Stage Concrete, 1000

Stress waves

Stress Measurement and Defect Detection in Steel Strands by Guided Stress Waves, 987

Structural analysis

Design-Oriented Analysis of Structures—Unified Approach, 313

Evaluation of Expected Life-Cycle Maintenance Cost of Deteriorating Structures, 1150

Experimental Investigations of Bailey Bridges, 109

- Feasibility of Rigidified Inflatable Structures for Hous-
- Genetic Algorithms in Competitive Environments, 141
- Object-Oriented Modeling of Structural Analysis and Design with Application to Damping Device Configuration, 138
- The Pentagon Building Performance Report, 1629 The Pentagon Report, 1549
- Potential for Structural Failure in the Seismic Near Field, 384
- Principles and Practice of Engineering: Architectural Engineering Sample Questions and Solutions, 1631
- Structural Analysis of Combined Footing on Piles,

Structural control

- Control of Civil Structure Using an Electric Machine with Semiactive Capability, 1176
- "Convexifying" Linear Matrix Inequality Methods for Integrating Structure and Control Design, 1179
- Identification of Simplified Models Using Adaptive Control Techniques, 1180
- Instantaneous Optimal Wilson-O Control Method. 418
- Neural Networks for Decentralized Control of Cable-Stayed Bridge, 97
- Novel Semiactive Friction Controller for Linear Structures against Earthquakes, 1175
- Semiactive Structural-Control Based on Variable Slip-Force Level Dampers, 1174
- Semiactive Tuned Liquid Column Dampers: Experimental Study, 1177
- A Study of Two Stochastic Search Methods for Structural Control, 140 Switching Oil Damper with Built-in Controller for
- Structural design
- Behavior of Calculated Nail Head Strength in Soil-Nailed Structures, 655
- Cold-Formed Steel Channels Subjected to Concentrated Bearing Load. 1181
- Knowledge-Based System on Optimum Design of Liquid Retaining Structures with Genetic Algorithms.
- Light of L.A., 1544
- Minimum Design Loads for Buildings and Other Strucpures, 1627

Structural dynamics

- Random Uncertainties Model in Dynamic Substructuring using a Nonparametric Probabilistic Model, 333
- Substructural Identification Method without Interface Measurement, 367

Structural engineering

- Hershey Arena: Anton Tedesko's Pioneering Form,
- Parallel Processing Techniques in Structural Engineering Applications, 1252
- Super Structure, 1571

Structural failures

- Asymptotic Matching Analysis of Scaling of Structural Failure Due to Softening Hinges. I: Theory, 353
- Asymptotic Matching Analysis of Scaling of Structural Failure Due to Softening Hinges. II: Implications, 354

- Engineering Considerations for Life-Slab Construction,
- Forensic Engineering, 1615

Structural materials

- Development of Design Values for Wood-Plastic Composite Materials, 1010
- Geotechnical Aspects of Eroded Sediments Relevant to Tailings Disposal Design, 1525
- Life-Cycle Performance of Deteriorating Structures: Assessment, Design and Management, 1623
- Physical Properties of Glass Fiber-Reinforced Polymer Rebars in Compression, 196

Structural members

- Determining Appropriate Fatigue Inspection Intervals for Steel Bridge Members, 78
- Microplane Model for Reinforced-Concrete Planar Members in Tension-Compression, 1118

Structural reliability

- Bounds on System Reliability by Linear Programming,
- Classification Approach for Reliability Analysis with Stochastic Finite-Element Modeling, 1195
- Comprehensive Assessment of Hurricane Shelters: Lessons from Hurricane Georges, 1541
- Consistent Finite-Element Response Sensitivity Analy-
- Life-Cycle Performance of Deteriorating Structures: Assessment, Design and Management, 1623
- Probabilistic Model for Marine Corrosion of Steel for Structural Reliability Assessment, 1231
- Structural Reliability/Redundancy under Earthquakes, 1090
- System Reliability Assessment by Method of Moments, 1215
- Updating Bridge Reliability Based on Bridge Management Systems Visual Inspection Results, 113

Structural response

- Design of Amplified Structural Damping using Optimal Considerations, 1224
- Design of Piezoresistive MEMS-Based Accelerometer for Integration with Wireless Sensing Unit for Structural Monitoring, 49

Structural safety

- Case Study of the Failure of a Cross Vault: Church of Holyrood Abbey, 66
- Design Wind Speed Prediction, 1208
- Increasing the Load Capacity of Suspension Bridges,

Structural settlement

- Case History of Damage to a School Building Caused by Differentially Heaving Bedrock, 1046
- Examples of Settlement in Structures Constructed on Tidal Silt in Coastal Areas of Southeast China, 1508

Structural stability

- Dynamic Instability of Simple Structural Systems,
- Holding Up. 1578
- Recent Research in Nondestructive Evaluation of Civil Infrastructures, 996

Structural strength

Cap Model for Limit Analysis and Strengthening of Masonry Structures, 1218

Structure reinforcement

Bond between Carbon Fiber Reinforced Polymer Bars and Concrete. I: Experimental Study, 174

Structure:

Aging Approach to Water Effect on Alkali-Silica Reaction Degradation of Structures, 289

Atmospheric Corrosion Resistance of Structural Steels, 961

Damage Detection Based on Single-Input-Single-Output Measurements, 306

Structural Damage Detection and Assessment from Modal Response, 299

Struts

Design of Retrofitting for Damaged Rectangular Hollow Sectioned Struts, 1182

Temperature Correction and Strut Loads in Central Artery Excavations, 626

Students

Footbridge: Project to Implement Management Functions at AASTMT, 1062

Studs

Behavior of Shear Studs Subjected to Fully Reversed Cyclic Loading, 1229

Subcontractors

Okada Trucking Bombshell, 1074

Subcritical flow

Free Overfall in Inverted Semicircular Channels, 739

Subgrades

Dynamic Stiffness Modulus for Pavement Subgrade Evaluation, 1335

Evaluation of Pile Diameter Effect on Initial Modulus of Subgrade Reaction, 601

Falling Weight Deflectometer for Estimating Subgrade Elastic Moduli, 1295 Recent Advances in Materials Characterization and

Modeling of Pavement Systems, 1633

Submerged flow

Flow through Side Sluice Gate, 909

Submerged jets

Hydraulics of Submerged Jet Subject to Change in Cohesive Bed Geometry, 696

Influence of Cohesion on Scour under Sumerged Circular Vertical Jets, 798

Submerging

Analysis of Water Waves Passing over a Submerged Rectangular Dike, 350

Erosion of Sand by Circular Impinging Water Jets with Small Tailwater, 715

Geometry of Submerged Funicular Arches in Cartesian Coordinates, 1189

Open Channel Flow through Different Forms of Submerged Flexible Vegetation, 780

Subsidies, financial

Strategic Characterization of Water System Infrastructure and Management, 955

Substructures

A Higher Profile, 1563

Random Uncertainties Model in Dynamic Substructuring using a Nonparametric Probabilistic Model, 333

Substructural Identification Method without Interface Measurement, 367

Subsurface drainage

Method for Normalization of Soil Salinity Data, 866

Subsurface environment

Inexact Multiphase Modeling System for the Management of Subsurface Contamination under Uncertainty, 1471

Parameter Estimation of the Transient Storage Model for Stream-Subsurface Exchange, 496

Subways

Restoring PATH, 1577

Suction

Measured and Estimated Suction Indices for Swelling Potential Classification, 642

Sulfator

Anaerobic Treatment of High Sulfate Wastewater with Oxygenation to Control Sulfide Toxicity, 571

Modeling of Damage in Cement-Based Materials Subjected to External Sulfate Attack. I: Formulation, 997

Modeling of Damage in Cement-Based Materials Subjected to External Sulfate Attack. II: Comparison with Experiments, 998

Sulfur

Alternative Cap Materials for Evaluating the Compressive Strength of Controlled Low-Strength Materials, 1019

Modeling Water and Sulfuric Acid Transport through Coated Cement Concrete, 331

Supercritical flow

Free Overfall in Inverted Semicircular Channels, 739 Side Outflow from Supercritical Channel Flow, 771

Superstructures

Nonlinear Finite-Element Analysis for Highway Bridge Superstructures, 90

Rehabilitation of Bridge Superstructures via the Addition of Girder Lines. I: Theoretical Considerations, 1510

Rehabilitation of Bridge Superstructures via the Addition of Girder Lines. II: Practical Considerations, 1511

Worthy Successor, 1593

Surcharge

Hydraulic Performance Index of a Sewer Network, 747

Surf zone

Laboratory Measurements of Void Fraction and Turbulence in the Bore Region of Surf Zone Waves, 411

Surface irrigation

Estimating Soil Moisture under Low Frequency Surface Irrigation using Crop Water Stress Index, 862 Field Verification of Two-Dimensional Surface Irriga-

tion Model, 902 Two-Dimensional Basin Flow with Irregular Bottom

Two-Dimensional Basin Flow with Irregular Bottom Configuration, 901

Surface roughness

Response of Continuous System with Stochastically Varying Surface Roughness to Moving Load, 366

Two-Phase (Air and Water) Flow through Rock Joints: Analytical and Experimental Study, 666

Surface runoff

Impact of Annual Average Daily Traffic on Highway Runoff Pollutant Concentrations, 558

Surface waters

Conjunctive-Management Models for Sustained Yield of Stream-Aquifer Systems, 1383

Hydrologic Impacts of Distrubed Lands Treated with Dust Suppressants, 830

Surface waves

Characterization of Heterogeneous Soils using Surface Waves: Homogenization and Numerical Modeling, 17

Flow Conditions of Undular Hydraulic Jumps in Horizontal Rectangular Channels, 790

In Situ Estimate of Shear Wave Velocity using Borehole Spectral Analysis of Surface Waves Tool, 629

Site Response at Treasure and Yerba Buena Islands, California, 619

Surface-active agents

Amphoteric Effect of Humic Acids in Surfactant-Aided Photolysis of Polychlorobiphenyls, 528

Effect of Soil Type on Electrokinetic Removal of Phenanthrene using Surfactants and Cosolvents, 482 Integrated Simulation-Optimization Approach for Real-Time Dynamic Modeling and Process Control

Integrated Simulation-Optimization Approach for Real-Time Dynamic Modeling and Process Control of Surfactant-Enhanced Remediation at Petroleum-Contaminated Sites, 1472

Multivariate Study on Phenanthrene Sorption in Soils, 564

Occurrence and Degradation of Estrogenic Nonylphenol and its Precursors in Northeast Kansas Wastewater Treatment Plants, 1484

Remediation of Contaminated Soils by Surfactant-Aided Soil Washing, 1463

Surge

Suitability of Dynamic Modeling for Flood Forecasting during Ice Jam Release Surge Events, 118

Survey

Critical Success Factors for Value Management Studies in Construction, 252

Determination of Orthometric Height of NJI2 CORS Station, 1273

Effect of Temporal Physical Correlation on Accuracy Estimation in GPS Relative Positioning, 1259

Efficient Least Squares Coordinate Transformation for an Arbitrary Number of Parameters, 1265

Employment History Survey of ASCE's Younger Members, 916

Geometric Modeling Systems for Construction Surveying of Highway Tunnels, 1279

ISO 14000 and the Construction Industry: Survey in China. 951

Least Squares Fitting Method Based on Bivariate Nonuniform *B*-Spline and Its Applications in Surveying Engineering, 1272

World Survey of Civil Engineering Programs on Fiber Reinforced Polymer Composites for Construction, 1073

Suspended load

Aspect Ratio to Maximize Sediment Transport in Rigid Bank Channels, 788

Measurements of Sediment Erosion and Transport with the Adjustable Shear Stress Erosion and Transport Flume, 782

Suspended sediments

Fluid-Particle Interactions and Resuspension in Simple Shear Flow, 794 Movement of Total Suspended Solids in Combined Sewers, 724

Suspension

Interaction of Particles and Near-Wall Lift in Slurry Pipelines, 700

Rheological Behavior of Fine and Large Particle Suspensions, 774

Self-Cleansing Sewer Design Based on Sediment Transport Principles, 721

Swamp

Modeling of Flow Resistance in Mangrove Swamp at Mouth of Tidal Keelung River, Taiwan, 1437

Swelling

Aging Approach to Water Effect on Alkali-Silica Reaction Degradation of Structures, 289

Measured and Estimated Suction Indices for Swelling Potential Classification, 642

Shrink Test-Water Content Method for Shrink and Swell Predictions, 634

Switzerland

Conceptual Design for the Sunniberg Bridge, 84

System analysis

Advances in Ritz Vector Identification, 1194

Systems Analysis of Pump-and-Treat Groundwater Remediation, 1481

System reliability

Bounds on System Reliability by Linear Programming, 351

Tailings

Geotechnical Aspects of Eroded Sediments Relevant to Tailings Disposal Design, 1525

Geotechnical Study for Hydraulic Barrier System at Tailings Pond, 1479

Tailwater

Erosion of Sand by Circular Impinging Water Jets with Small Tailwater, 715

Taiwa

Highway Investment Planning Model for Equity Issues, 1376

Modeling of Flow Resistance in Mangrove Swamp at Mouth of Tidal Keelung River, Taiwan, 1437

Multicriteria Optimization for Infectious Medical Waste Collection System Planning, 1470

Optimization of Reservoir Management and Operation with Hedging Rules, 1388

Risk Allocation and Rish Handling of Highway Projects in Taiwan, 945

Tanks

Effects of Velocity Head and Momentum Exchange on Critical Stable Sectional Area of Downstream Throttled Surge Tank, 283

TCE

Modeling Tetrachloroethylene Decomposition in Photosonolysis Reactor, 458

Teaching methods

The Bowers Program: Effects of Cross-Disciplinary Design Activities on Architectural Engineering Student Performance, 67

Bridge Construction in Guatemala: Linking Social Issues and Engineering, 1071

Plug and Chug, Cram and Flush, 1060

Teachable Moments and the Tyranny of the Syllabus: September 11 Case, 1068

Technology

America Transformed: Engineering and Technology in the Nineteenth Century, 1606

How to Evaluate and Invest in Emerging A/E/C Technologies under Uncertainty, 199

Technology transfer

Hershey Arena: Anton Tedesko's Pioneering Form, 1113

Telecommunication

Aesthetic Appraisal of Antenna Towers, 65

Exploiting Motor Vehicle Information and Communications Technology for Transportation Engineering, 1340

Temperature

Analytical Fire Resistance of Axially Restrained Steel Columns, 1236

Behavior of Concrete Driven by Uniaxially Embedded Shape Memory Alloy Actuators, 360

Bond Geometry and Shear Strength of Steel Plates Bonded to Concrete on Heating, 1031

Effect of Strength and Fiber Reinforcement on Fire Resistance of High-Strength Concrete Columns, 1111

Effect of Temperature on Thermal Properties of High-Strength Concrete, 972

Experimental Studies on the Properties of Constructional Steel at Elevated Temperatures, 1254

Finite-Element Modeling of Heat-Curved I-Girders, 88

Modeling Temperature Effects on Decomposition, 576
Optimum Compaction Temperature for Modified
Binders, 1347

Percolation-Induced Heat Transfer in Deep Unsaturated Zones, 679

Plastic Limit Temperatures of Flexibly Connected Steel Frames: A Linear Programming Problem, 1092

Proposed Design Method for Thermal Bridge Movements, 72

Quantitative Effect of Elastomeric Modification on Binder Performance at Intermediate and High Temperatures, 963

Rate Parameters for Methyl terr-Butyl Ether Biodegradation via a Radial Diffusion Model, 510

Soil Water Retention and Conductivity when Vapor Flow is Important, 881

Synchrotron Radiation for Detecting Movement of a Volatile Soil Liquid, 499

Thermal Performance Analysis of Highly Reflective Coating on Residences in Hot and Arid Climates, 280

Temperature distribution

Model for Nonlinear Thermal Effect on Pavement Warping Stresses, 1366

Nonlinear Thermal Analysis for Qing-Tibet Railway Embankments in Cold Regions, 126

Thermal Behavior of Activated Carbon Cloths Heated by Joule Effect, 569

Temperature effects

Temperature Correction and Strut Loads in Central Artery Excavations, 626

Thermal-Structural Modeling and Temperature Control of Roller Compacted Concrete Gravity Dam, 1054

Tendons

Enduring Strength, 1586

Formulation of L₁ Norm Minimization in Gauss-Markov Models, 1261

Long-Term Deflection and Cracking Behavior of Concrete Beams Prestressed with Carbon Fiber-Reinforced Polymer Tendons, 177

Long-Term Properties and Transfer Length of Fiber-Reinforced Polymers, 158

Tendon Model for Nonlinear Analysis of Externally Prestressed Concrete Structures, 1094

Ultrasonic Guided Waves for Inspection of Grouted Tendons and Bolts, 986

Tennessee

Efficacy of Genetic Algorithm to Investigate Small Scale Aquitard Leakage, 750

Impact of River Channelization on Seismic Risk: Shelby County, Tennessee, 1518

Joint Seasonal/Annual Flood Frequency Analysis, 818

Tensile loads

Real-Time Monitoring for Quality Delivery of Directional Drilling Installations, 844

Tensile strength

Concrete Uniaxial Tensile Strength and Cylinder Splitting Test, 1151

Nonstandard Tensile Coupon for Fiber-Reinforced Plastics, 973

Tension

Adjustable Tensegrity Structures, 1134

Effects of Mineral Admixture on Properties of Young Concrete, 1013

Microplane Model for Reinforced-Concrete Planar Members in Tension-Compression, 1118

New Design Rule for Intermediate Transverse Stiffeners Attached on Web Panels, 1243

Optimization of Cable Tensioning in Cable-Stayed Bridges, 85

Physical Properties of Plywood and Waferboard as Pile Cushion Materials, 615 Postbuckling Analysis of Plates Resting on a Tension-

less Elastic Foundation, 332 Sheet Pile Tensions in Cellular Structures, 600

Tension Stiffening and Crack Formation in Reinforced Concrete Members with Fiber-Reinforced Polymer Sheets, 1154

Tension structures

Combining Dynamic Relaxation Method with Artificial Neural Networks to Enhance Simulation of Tensegrity Structures, 1149

Terminology

A New Approach to Effective Use of Design Rationale in Practice, 62

Terrain

Study on Accuracy of 1-Degree DEM Versus Topographic Complexity Using GIS Zonal Analysis, 1268

Terrain models

Effect of Gridding Method on Digital Terrain Model Profile Data Based on Scattered Data, 133

Improved Process for Floodplain Delineation from Digital Terrain Models, 1419

Terrorism

The Cyanic Threat, 1595

- Economic Model to Optimize Underground Utility Protection, 270
- Forensic Engineering, 1615
- Holding Up, 1578
- Infrastructure Issues for Cities—Countering Terrorist Threat, 845
- Modeling Immune Building Systems for Bioterrorism Defense, 64
- The Pentagon Building Performance Report, 1629
- The Pentagon Report, 1549
- Rebuilding the Winter Garden, 1547
- Risk-Based Decisionmaking in Water Resources X, 1636
- Teachable Moments and the Tyranny of the Syllabus: September 11 Case, 1068
- Urban Hazard Mitigation: Creating Resilient Cities, 1534

Test equipment

Triaxial Testing of Frozen Sand: Equipment and Example Results, 122

Tests

- 100-Ton (890 kN) Rock Anchor Pullout Test, 1496
- Adjustable Tensegrity Structures, 1134
- Advection Tests of Optimal Compact Implicit Scheme, 736
- Alternative Shear Reinforcement for Reinforced Concrete Flat Slabs, 1197
- Drift Capacity of Rectangular Reinforced Concrete Columns with Low Lateral Confinement and High-Axial Load, 1156
- Finite-Element Modeling of Skid Resistnce Test, 1321
- Poststrengthening of Concrete Slabs: Full-Scale Testing and Design Recommendations, 1157
- Pseudo-Dynamic Testing of Unreinforced Masonry Building with Flexible Diaphragm, 1153
- Seismic Behavior of Curtain Walls Containing Insulating Glass Units, 63
- Standardized Collimated Beam Testing Protocol for Water/Wastewater Ultraviolet Disinfection, 535
- Summary of a Large- and Small-Scale Unreinforced Masonry Infill Test Program, 1249
- Testing of Steel Pipes under Bending, Twist, and Shear, 1216

Tovas

- Closing the Loop, 1565
- Effectiveness of Preventative Maintenance Treatments using Fourteen SPS-3 Sites in Texas, 1050
- Forensic Evaluation of Premature Failures of Texas Specific Pavement Study-1 Sections, 1043
- Radar-Based Flood Warning System Applied to Tropical Storm Allison, 834
- Tapping the Desert, 1560

Textiles

- Activated Carbon Addition to an Activated Sludge Model Reactor for Color Removal from a Cotton Textile Processing Watewater, 568
- Anaerobic Treatment of Synthetic Textile Wastewater Containing a Reactive Azo Dye, 514
- Prediction of Humidification Power in Textile-Spinning Mills using Functional and Neural Networks, 277
- Quantitative Description of the Pull-Out Behavior of Crimped Yarns from Cement Matrix, 1025

Thailand

- Development of Bottom Ash as Pozzolanic Material, 965
- Regal Crossing, 1574

Theories

Constructing Second-Order Models of Mechanical Systems from Identified State Space Realizations. Part I: Theoretical Discussions, 336

Thermal analysis

- Carbonation of Municipal Solid Waste Incineration Fly Ash and the Impact on Metal Mobility, 493
- Thermal Performance Analysis of Highly Reflective Coating on Residences in Hot and Arid Climates, 280
- Thermal Postbuckling of Uniform Columns on Elastic Foundation—Intuitive Solution, 426

Thermal factors

- Finite-Element Modeling of Heat-Curved I-Girders, 88
- Laboratory Evaluation of Fiber-Optic Sensors for Strain Monitoring, 1006
- Model for Nonlinear Thermal Effect on Pavement Warping Stresses, 1366
- Nonlinear Elastoplastic Analysis of Semirigid Steel Frames at Elevated Temperature: MP Approach, 1148
- Postbuckling of Pressure-Loaded Functionally Graded Cylindrical Panels in Thermal Environments, 330
- Potential Thermal Degradation of Attic Framing and Wood Sheathing, 1514
- Proposed Design Method for Thermal Bridge Movements, 72
- Thermal Effects on Skewed Steel Highway Bridges and Bearing Orientation, 77
- Thermal Movements in Concrete: Case Study of Multistory Underground Car Park, 1026
- Thermal Stabilization of Iron-Rich Sludge for High Strength Aggregates, 1030
- Thermal Treatment for Incinerator Ash: Evaporation and Leaching Rates of Metals, 473

Thermal gradient

Synchrotron Radiation for Detecting Movement of a Volatile Soil Liquid, 499

Thermal powerplants

Sustainability Indices of Thermal Electrical Power Production in Greece, 463

Thermal properties

Effect of Temperature on Thermal Properties of High-Strength Concrete, 972

Thermal stresses

- Decontamination of Radionuclides from Concrete by Microwave Heating. I: Theory, 368
- Decontamination of Radionuclides from Concrete by Microwave Heating. II: Computations, 369
- Full-Scale Testing of Procedures for Assembling Trunnion-Hub-Girder in Bascule Bridges, 94
- Thermal-Structural Modeling and Temperature Control of Roller Compacted Concrete Gravity Dam, 1054

Thermodynamics

Rate-Dependent Hyperplasticity with Internal Functions, 312

Thickness

Thickness

Effect of Bridge Deck Thickness on Properties and Behavior of Bridge Decks, 1502

Effects of Weakly Nonlinear Water Waves on Soft Poroelastic Bed with Finite Thickness, 307

Optimization of Ground-Penetrating Radar Data to Predict Layer Thicknesses in Flexible Pavements, 1294

Thin shell structures

Hershey Arena: Anton Tedesko's Pioneering Form,

Thin wall structures

Local, Distortional, and Euler Buckling of Thin-Walled Columns, 2

Three-dimensional analysis

Geographic Information Systems-Based Three-Dimensional Critical Slope Stability Analysis and Landslide Hazard Assessment, 687

Three-Dimensional Analysis of Nonhomogeneous Slopes, 591

Three-Dimensional Discrete Element Method of Analysis of Clays, 347

Three-dimensional flow

Dynamics of Large Polymictic Lake. II: Numerical Simulations, 702

Validation of a Three-Dimensional Numerical Code in the Simulation of Pseudo-Natural Meandering Flows, 770

Three-dimensional models

Coupling an Underflow Model to a Three-Dimensional Hydrodynamic Model, 769

Development and Application of Oil Spill Model for Singapore Coastal Waters, 746

Development of Three-Dimensional Hydrodynamic and Water Quality Models to Support Total Maximum Daily Load Decision Process for the Neuse River Estuary, North Carolina, 1406

Investigation of Two- and Three-Dimensional Models of Transitional Flow Past a Square Cylinder, 423

Low Strain Integrity Testing of Piles: Three-Dimensional Effects, 681

Nonhydrostatic Three-Dimensional Method for Hydraulic Flow Simulation. II: Validation and Application, 713

Nonhydrostatic Three-Dimensional Model for Hydraulic Flow Simulation. I: Formulation and Verification, 712

Reducing Numerical Diffusion Effects with Pycnocline Filter, 714

Three-Dimensional Modeling of Tidal Circulation in Bay of Fundy, 1440

Three-Dimensional Numerical Simulation of Compound Channel Flows, 760

Tidal effects

Dynamic Wave Study of Flow in Tidal Channel System of San Juan River, 749

Tidal waters

Data Requirements for Load Estimation in Well-Mixed Tidal Channels, 534

Tides

Evaluation of Numerical Models of Flood and Tide Propagation in Channels, 4

Study of Earth Tides using Quartz Tiltmeter, 1263

2003 ASCE TRANSACTIONS

Trends in United States Tidal Datum Statistics and Tide Range, 1444

Wind and Stream Flow Induced Reaeration, 574

Tieback restraint systems

Keeping It Rolling, 1583

Tiles

Investigation of a Sheffield Structural Tile Floor Failure Indicates a Dangerous Design/Development Oversight, 1512

Tiltmeters

Study of Earth Tides using Quartz Tiltmeter, 1263

Timber construction

What Are Our Expectations, Objectives, and Performance Requirements for Wood Structures in High Wind Regions?, 1535

Time dependence

Time-Dependent Back Analysis of a Multianchored Pile Retaining Wall, 586

Time factor.

Critical Gap as a Function of Waiting Time in Determining Roundabout Capacity, 1344

Time series analysis

Design Wind Speed Prediction, 1208

Timing

Proposed Methodology of Optimizing Transitioning between Time-of-Day Timing Plans, 1330

Colle

Application of Variable Tolls on Congested Toll Road,

Topographic surveys

Generation of Digital Orthophotos from IKONOS Satellite Images, 1266

Study on Accuracy of 1-Degree DEM Versus Topographic Complexity Using GIS Zonal Analysis, 1268

Topography

Delaunay Triangulation Algorithms Useful for Multibeam Echosounding, 1267

Corsion

Dimensional Analysis of Reinforced Concrete Beams Subjected to Pure Torsion, 1239

Exact Finite Element for Nonuniform Torsion of Open Sections, 1107

Toughness

Effects of Material Toughness and Plate Thickness on Brittle Fracture of Steel Members, 1230

Toxic wastes

Retention and Distribution of 1-Naphthol and Naphthol Polymerization Products on Surface Soils, 565

Toxicity

Comparative Study of Two Bioassays for Applications in Influent Wastewater Toxicity Monitoring, 468

Comparison of Bacterial Bioluminescence with Activated Sludge Oxygen Uptake Rates during Zinc Toxic Shock Loads in a Wastewater Treatment System, 546

Efficacy of Biofilms under Toxic Conditions, 512

Evaluation of Leaching Tests for Cement Based Immobilization of Hazardous Compounds, 519

Toxic Mold: Latest Construction Defect, 1075

Toxicity Estimation of Phenolic Compounds by Bioluminescent Bacterium, 481

Tracers

- Dispersion Coefficient of Streams from Tracer Experiment Data, 506
- Hydraulic Analysis of Orlando Easterly Wetland, 508
- Investigation of Fluorescent Dyes as Partitioning Tracers for Subsurface Nonaqueous Phase Liquid (NAPL) Characterization. 531
- Longshore Sediment Transport Rates on a Microtidal Estuarine Beach, 1427
- Treatment of Stagnant Zones in Riverine Advection-Dispersion, 743

Tracking

Particle Image Velocimetry System with Self-Organized Feature Map Algorithm, 407

Tractive forces

Determination of Critical Head in Soil Piping, 748

Traffic

Kinematic Wave Model of Urban Pavement Rainfall-Runoff Subject to Traffic Loadings, 518

Traffic accidents

- Characterization of Freeway Capacity Reduction Resulting from Traffic Accidents, 1326
- Estimating Rear-End Accident Probabilities at Signalized Intersections: Occurrence-Mechanism Approach, 1328
- Evaluating a Detection and Warning System to Deter No-Passing Zone Violations, 1354
- Fast Automatic Incident Detection on Urban and Rural Freeways using Wavelet Energy Algorithm, 1290
- Integrated Methodology for Design of Polluted Water Control System of Road Infrastructures for Environmental Protection, 1293

Traffic analysis

Application of Variable Tolls on Congested Toll Road,

Traffic assignment

Evaluation of Value Pricing using a Multiclass Dynamic Network Model, 1357

Traffic capacity

- Characterization of Freeway Capacity Reduction Resulting from Traffic Accidents, 1326
- Effect of Lane Width on Capacity under Mixed Traffic Conditions in India, 1301
- Examining Sensitivity of Impact of Taxi Traffic on Capacity and Delays at Urban Road Sections, 1317
- Network Reserve Capacity under Influence of Traveler Information, 1314

Traffic congestion

- Comparing Driver Information Systems in a Dynamic Modeling Framework, 1288
- Reducing Car Travel in Australian Cities: Review Report, 1372
- Simulating the Impacts of Strong Bus Priority Measures, 1360

Traffic control

- Can Single-Loop Detectors Do the Work of Dual-Loop Detectors?, 1303
- On-Line Measure of Shockwaves for ITS Applications, 1283

- Reinforcement Learning for the True Adaptive Traffic Signal Control, 1316
- Traffic Prediction using Multivariate Nonparametric Regression, 1302
- Truck Speed Profile Models for Critical Length of Grade, 1332

Traffic delay

- Examining Sensitivity of Impact of Taxi Traffic on Capacity and Delays at Urban Road Sections, 1317
- Freeway Work Zone Traffic Delay and Cost Optimization Model, 1311
- Simulation Modeling and Variability Assessment of Delays at Traffic Signals, 1304

Traffic engineering

Visibility Effectiveness of Hemisphere and Corner Cube Retroreflective Pavement Markers on Curved Roads, 1292

Traffic flow

- Determining Traffic Stream Impacts of Radar Detectors using Microscopic Simulation, 1284
- Freeway Traffic Flow Rate Measurement: Investigation into Impact of Measurement Time Interval, 1310
- Impacts of Shorter Perception-Reaction Time of Adapted Cruise Controlled Vehicles on Traffic Flow and Safety, 1300
- Modeling and Forecasting Vehicular Traffic Flow as a Seasonal ARIMA Process: Theoretical Basis and Empirical Results, 1363
- Relationships among Urban Freeway Accidents, Traffic Flow, Weather, and Lighting Conditions, 1324
- Two-Phase Fluids Model for Freeway Traffic Flow and its Application to Simulate Evolution of Solitons in Traffic, 1289
- Vehicle Detection Using Video Image Processing System: Evaluation of PEEK VideoTrak, 1338

Traffic generated pollution

Impact of Annual Average Daily Traffic on Highway Runoff Pollutant Concentrations, 558

Traffic management

- CBR Model for Freeway Work Zone Traffic Management, 1299
- Comparison of Four Modeling Techniques for Short-Term AADT Forecasting in Hong Kong, 1315
- Critical Gap as a Function of Waiting Time in Determining Roundabout Capacity, 1344
- Hot Spot Management Benefits: Robustness Analysis for a Congested Developing City, 1307
- Impact of Dynamic and Safety-Conscious Route Guidance on Accident Risk, 1327
- Impacts of Red Light Camera on Violation Characteristics, 1361
- Modeling and Forecasting Vehicular Traffic Flow as a Seasonal ARIMA Process: Theoretical Basis and Empirical Results, 1363
- Neuro-Fuzzy Logic Model for Freeway Work Zone Capacity Estimation, 1342
- Radial Basis Function Neural Network for Work Zone Capacity and Queue Estimation, 1343
- Reinforcement Learning for the *True* Adaptive Traffic Signal Control, 1316

Traffic models

- Evaluation of Value Pricing using a Multiclass Dynamic Network Model, 1357
- Modeling and Forecasting Vehicular Traffic Flow as a Seasonal ARIMA Process: Theoretical Basis and Empirical Results, 1363
- Truck Speed Profile Models for Critical Length of Grade, 1332

Traffic safety

- Distributing Superelevation to Maximize Highway Design Consistency, 1298
- Evaluating a Detection and Warning System to Deter No-Passing Zone Violations, 1354
- Impacts of Red Light Camera on Violation Characteristics, 1361
- Performance Comparison of Automatic Vehicle Identification and Inductive Loop Traffic Detectors for Incident Detection. 1355
- Relationships among Urban Freeway Accidents, Traffic Flow, Weather, and Lighting Conditions, 1324
- Visibility Effectiveness of Hemisphere and Corner Cube Retroreflective Pavement Markers on Curved Roads, 1292

Traffic signals

- Damping in Cantilevered Traffic Signal Structures under Forced Vibration, 1121
- Impacts of Red Light Camera on Violation Characteristics, 1361
- On-Line Measure of Shockwaves for ITS Applications, 1283
- Proposed Methodology of Optimizing Transitioning between Time-of-Day Timing Plans, 1330
- Reinforcement Learning for the *True* Adaptive Traffic Signal Control, 1316
- Simulation Modeling and Variability Assessment of Delays at Traffic Signals, 1304
- Using Fuzzy Clustering of User Perception to Define Levels of Service at Signalized Intersections, 1362

Traffic speed

- Can Single-Loop Detectors Do the Work of Dual-Loop Detectors?, 1303
- Truck Speed Profile Models for Critical Length of Grade, 1332

Traffic surveillance

- Can Single-Loop Detectors Do the Work of Dual-Loop Detectors?, 1303
- Impacts of Red Light Camera on Violation Characteristics, 1361
- Improved Vehicle Reidentification and Travel Time Measurement on Congested Freeways, 1341
- Performance Comparison of Automatic Vehicle Identification and Inductive Loop Traffic Detectors for Incident Detection, 1355
- Vehicle Detection Using Video Image Processing System: Evaluation of PEEK VideoTrak, 1338

Traffic survey

Analysis of Fiber Optic Traffic Sensors in Flexible Pavements, 1349

Traffic volume

- Can Single-Loop Detectors Do the Work of Dual-Loop Detectors?, 1303
- Comparison of Four Modeling Techniques for Short-Term AADT Forecasting in Hong Kong, 1315

Training

Project Management Training and Community Service,

Transducers

- Capacitive Micromachined Ultrasonic Transducers: Theory and Technology, 46
- Full-Scale Field Evaluation of Microelectromechanical System-Based Biaxial Strain Transducer and Its Application in Fatigue Analysis, 48

Transformations

- Effects of Errors in Coordinates on Transformation Parameters, 1269
- Efficient Least Squares Coordinate Transformation for an Arbitrary Number of Parameters, 1265

Transient flou

Use of Steady-State Pump Head-Discharge Curve for Unsteady Pipe Flow Applications, 796

Transients

Efficient Quasi-Two-Dimensional Model for Water Hammer Problems, 797

Transport phenomena

Effects of Flow Depth on Water Flow and Solute Transport in Furrow Irrigation: Field Data Analysis, 885

Transport rate

Particle Densimetric Froude Number for Estimating Sediment Transport, 738

Transportation

- Design/Build in Transportation from the Research Perspective, 927
- Engineering the Procurement Phase to Achieve Best Value, 928

Transportation corridors

- Frontage Roads: Assessment of Legal Issues, Design Decisions, Costs, Operations, and Land-Development Differences, 1312
- Joining Forces, 1585

Transportation engineering

Exploiting Motor Vehicle Information and Communications Technology for Transportation Engineering,

Transportation management

- Empirical-Mechanistic Method-Based Stochastic Modeling of Fatigue Damage to Predict Flexible Pavement Cracking for Transportation Infrastructure Management, 1296
- Exploiting Motor Vehicle Information and Communications Technology for Transportation Engineering, 1340

Transportation networks

- Innovative Pavement Management and Planning System for Road Network of Portugal, 848
- Network Reserve Capacity under Influence of Traveler Information, 1314
- Retrofit Priority of Transport Network Links under an Earthquake, 1378

Transportation planning

Evolution of Personal Travel in Toronto Area and Policy Implications, 1368

Transportation safety

- Highway-Rail Quad Gate Operation Time by System Simulation of Dynamic Dilemma Zone, 1313
- Impact of Dynamic and Safety-Conscious Route Guidance on Accident Risk, 1327

Transportation studies

Application of Variable Tolls on Congested Toll Road, 1325

Transverse shear

Concentrations of Pressure between an Elastically Supported Beam and a Moving Timoshenko-Beam, 399

Transverse waves

Determination of Early Age Mortar and Concrete Strength by Ultrasonic Wave Reflections, 990

Travel demand

- Airport Choice, Leakage, and Experience in Single-Airport Regions, 1308
- Evolution of Personal Travel in Toronto Area and Policy Implications, 1368
- Network Reserve Capacity under Influence of Traveler Information, 1314
- Reducing Car Travel in Australian Cities: Review Report, 1372

Travel modes

Causal Relationship among Travel Mode, Activity, and Travel Patterns, 1285

Travel patterns

- Causal Relationship among Travel Mode, Activity, and Travel Patterns, 1285
- Evolution of Personal Travel in Toronto Area and Policy Implications, 1368
- Travel Characteristics of Commuters Accessing Transit: Case Study, 1365

Travel time

- Dynamic Travel Time Prediction with Real-Time and Historic Data, 1356
- Improved Vehicle Reidentification and Travel Time Measurement on Congested Freeways, 1341

Trenches

Reappraisal of Marston's Formula, 1367

Trenching

- Comparative Performance Evaluation of Tele-Operated Pipe Laying, 201
- Predictive Tool for Estimating Accident Risk, 246

Trenchless technology

New Pipeline Technologies, Security, and Safety, 1628

Triangulation

- Delaunay Triangulation Algorithms Useful for Multibeam Echosounding, 1267
- Digital Elevation Model Based Volume Calculations using Topographical Data, 1264

Triaxial compression

- Strain Localization in Sand: Plane Strain versus Triaxial Compression, 625
- Triaxial Compression of Sand Reinforced with Fibers, 590

Triaxial tests

Behavior of Hydrocarbon Reservoir Sands and Sandstones, 676

- Degradation of Stiffness of Cemented Calcareous Soil in Cyclic Triaxial Tests, 637
- Engineering Properties of Fiber Reinforced Cold Asphalt Mixes, 555
- Evaluation of Cyclic Shear Strength of Two Cemented Calcareous Soils, 636
- Liquefaction Resistance of Clean and Nonplastic Silty Sands Based on Cone Penetration Resistance, 671
- Poromechanics of Anisotropic Hollow Cylinders, 419 Testing and Modeling Two Rockfill Materials, 598
- Triaxial Testing of Frozen Sand: Equipment and Example Results, 122
- Undrained Response of Clays to Varying Strain Rate, 605

Trickle irrigation

- Analytical Equation for Variation of Discharge in Drip Irrigation Laterals, 892
- Bacteriophages MS2 and PRD1 in Turfgrass by Subsurface Drip Irrigation, 543

Trip forecasting

Ship Traffic Modeling Methodology for Ports, 1449

Tropical regions

Laboratory Study of Loose Saturated and Unsaturated Decomposed Granitic Soil, 631

Tropical soils

Physical and Zeta Potential Characteristics of Erodible Lateritic Soils, 1530

Trucks

- Predicting Truck Load Spectra under Weight Limit Changes and its Application to Steel Bridge Fatigue Assessment, 107
- Truck Speed Profile Models for Critical Length of Grade, 1332

Trusses

- Deflection of Metal Plate Connected Wood Trusses with Nontriangulated Openings, 1238
- Dynamic Bending Strains in Planar Trusses with Pinned or Rigid Joints, 320
- Manual Procedures for Least-Weight Design of King-Post Truss Systems, 1513
- Nonlinear Behavior of Heavy Class Steel Truss Bridges, 1192

Tsunamis

Inverse Algorithm for Tsunami Forecasts, 1434

Tubes

- Analytical Models for Concrete Contined with FRP Tubes, 160
- Lap Splice Steel Connections with Stainless Steel Nails, 1206
- Longitudinal Plate and through Plate-to-Hollow Structural Section Welded Connections, 1130
- Tests of Cold-Formed Circular Tubular Braces under Cyclic Axial Loading, 1133
- Welded Tee-to-HSS Connections, 1100

Tunnel linings

Advancing Under London, 1603

Tunneling

- Advancing Under London, 1603
- Factors Affecting Long-Term Efficiency of Compensation Grouting in Clays, 603
- High-Profile Tunneling, 1580

- Scale Transition in Steel-Concrete Interaction. II: Applications, 329
- Singapore on the Move, 1596
- Study of Methods to Control Frost Action in Cold Regions Tunnels, 124
- Thermochemomechanical Assessment of Ground Improvement by Jet Grouting in Tunneling, 387 Tunnel Boring Machines, 1509

Tunnels

- Advancing Under London, 1603
- AUA Guidelines for Backfilling and Contact Grouting of Tunnels and Shafts, 1609
- The Big Dig's Big Dig, 1584
- Evaluation of Seismic Performance for Tunnel Retrofit Project, 633
- Geometric Modeling Systems for Construction Surveying of Highway Tunnels, 1279
- Optimal Layout of Displacement Measurements for Parameter Identification Process in Geomechanics,

Turbidity

Floc Characteristics and Removal of Turbidity and Humic Acid from High-Turbidity Storm Water, 511

Turbulence

- Aerodynamic Loads on Tall Buildings: Interactive Database, 1123
- Aeroelastic Analysis of Bridges: Effects of Turbulence and Aerodynamic Nonlinearities, 380
- Aeroelastic Balance, 315
- Coherent Structures in Flat-Bed Abutment Flow: Computational Fluid Dynamics Simulations and Experiments, 710
- Convection Velocity of Vortex Structures in the Near Wake of a Circular Cylinder, 402
- Influence of Turbulence on Bed Load Sediment Transport, 755
- Laboratory Measurements of Void Fraction and Turbulence in the Bore Region of Surf Zone Waves, 411
- Periodic Diffusional Mass Transfer near Sediment/ Water Interface: Theory, 495
- Response of Velocity and Turbulence to Sudden Change of Bed Roughness in Open-Channel Flow, 695
- Vertical Velocity Variance in the Mixed Layer from Radar Wind Profilers, 833

Turbulent boundary layers

- Computation of Three-Dimensional Nonlinear Panel Flutter, 54
- Vertical Velocity Variance in the Mixed Layer from Radar Wind Profilers, 833

Turbulent flov

- Atmospheric Momentum Roughness Applied to Stage-Discharge Relationships in Flood Plains, 810
- Nonhydrostatic Three-Dimensional Method for Hydraulic Flow Simulation. II: Validation and Application, 713
- Nonhydrostatic Three-Dimensional Model for Hydraulic Flow Simulation. I: Formulation and Verification, 712
- Shallow Turbulent Flows by Video Imaging Method, 408
- Three-Dimensional Numerical Simulation of Compound Channel Flows, 760
- Turbulent Flow over and within a Porous Bed, 767

Turkey

- Assessment of Performance of Seismic Isolation System of Bolu Viaduct, 91
- Dynamic Model for Monitoring Landslides with Emphasis on Underground Water in Trabzon Province, Northeastern Turkey, 1274
- Effects of Errors in Coordinates on Transformation Parameters, 1269
- Monitoring Crustal Movements in West Anatolia by Precision Leveling, 1262
- Optimal Capital Structure Model for BOT Power Projects in Turkey, 208
- Strategic Perspective of Turkish Construction Companies, 942

Two phase flow

- Hydraulic Design of Stepped Spillways, 762
- Two-Phase (Air and Water) Flow through Rock Joints: Analytical and Experimental Study, 666
- Two-Phase Flow Characteristics of Stepped Spillways, 761
- Two-Phase Fluids Model for Freeway Traffic Flow and its Application to Simulate Evolution of Solitons in Traffic, 1289

Two-dimensional flow

- Field Verification of Two-Dimensional Surface Irrigation Model, 902
- Two-Dimensional Simulation Model for Contour Basin Layouts in Southeast Australia. I: Rectangular Basins, 893
- Two-Dimensional Simulation Model for Contour Basin Layouts in Southeast Australia. II: Irregular Shape and Multiple Basins, 894

Two-dimensional models

- Coupling an Underflow Model to a Three-Dimensional Hydrodynamic Model, 769
- Efficient Quasi-Two-Dimensional Model for Water Hammer Problems, 797
- Investigation of Two- and Three-Dimensional Models of Transitional Flow Past a Square Cylinder, 423
- Investigation on the Suitability of Two-Dimensional Depth-Averaged Models for Bend-Flow Simulation, 756
- Reservoir Routing using Steady and Unsteady Flow through Rockfill Dams, 740

Ultimate loads

- Deformation Patterns of Reinforced Foundation Sand at Failure, 621
- Scale Transition in Steel-Concrete Interaction. II: Applications, 329
- Steel-Concrete Composite Plate Girders Subject to Shear Loading, 1204

Ultimate strength

- Experimental and Numerical Prediction of Collapse of Flatbar Stiffeners in Aluminum Panels, 1101
- Influence of Long-Term Loads on Concrete Column Strength, 1500
- Ultimate Strength of Ribbed Slab Composite Beams with Web Openings, 1164

Ultrasonic methods

Determination of Early Age Mortar and Concrete Strength by Ultrasonic Wave Reflections, 990

Ultraviolet radiation

- Airborne Bacteria Control under Chamber and Test-Home Conditions, 466
- Standardization of Methods for Fluence (UV Dose)
 Determination in Bench-Scale UV Experiments, 467
- Standardized Collimated Beam Testing Protocol for Water/Wastewater Ultraviolet Disinfection, 535

Uncertainty analysis

- Application of Fuzzy Logic to Simulation for Construction Operations, 131
- Coping with Uncertainty: A Case Study in Sediment Transport and Nutrient Load Analysis, 1411
- Inexact Multiphase Modeling System for the Management of Subsurface Contamination under Uncertainty, 1471
- Numerical Simulation of Dual-Phase Vacuum Extraction to Remove Nonaqueous Phase Liquids in Subsurface, 1473
- Poromechanics of Anisotropic Hollow Cylinders, 419
- Probabilistic Nonroad Mobile Source Emission Factors, 461
- Random Uncertainties Model in Dynamic Substructuring using a Nonparametric Probabilistic Model, 333
- Rating and Reliability of Existing Bridges in a Network, 114
- Robustness of River Basin Water Quality Models, 1398
- Uncertainty of Weekly Nitrate-Nitrogen Forecasts using Artificial Neural Networks, 474

Uncertainty principles

- Groundwater Quality Modeling an Management Under Uncertainty, 1617
- Hybrid Approach for Addressing Uncertainty in Risk Assessments, 451
- Some Uncertainties in Embankment Dam Engineering,

Undergraduate study

- Building Research Skills: Course-Integrated Training Methods, 1061
- Course in Professional Practice Issues, 1063
- Framework for Undergraduate Engineering Management Studies, 1067
- Undergraduate Research Mentoring Model in Construction Engineering and Management, 205

Underground construction

AUA Guidelines for Backfilling and Contact Grouting of Tunnels and Shafts, 1609

Underground structures

- Economic Model to Optimize Underground Utility Protection, 270
- Thermal Movements in Concrete: Case Study of Multistory Underground Car Park, 1026

Underwater pipelines

Thinking Deep, 1554

Underwater structures

Shapes of Submerged Funicular Arches, 297

Undrained shear tests

Postcyclic Degradation of Strength and Stiffness for Low Plasticity Silt, 649

Uniformit

Analytical Equation for Variation of Discharge in Drip Irrigation Laterals, 892 Performance of Rotating Spray Plate Sprinklers in Indoor Experiments, 900

United Kingdom

- Advancing Under London, 1603
- Great Hall, 1579
- Integrated Flood Risk Management in England and Wales, 1533
- Performance in International Construction Joint Ventures: Modeling Perspective, 267
- Self-Cleansing Sewer Design Based on Sediment Transport Principles, 721
- Traffic Prediction using Multivariate Nonparametric Regression, 1302
- Validation of Existing Bed Load Transport Formulas using In-Sewer Sediment, 727

United States

- Alternative Dispute Resolution in U.S. Public Works: Proposed Model, 1065
- America Transformed: Engineering and Technology in the Nineteenth Century, 1606
- Analysis of Recent Bridge Failures in the United States, 1051
- Beyond Semantics and the Immediate Postdisaster Period: Community Quality of Life as an Overarching Theme for Sustaining Collective Action, 1537
- Exaggeration of Wind Conditions in Hurricane Floyd and Other Tropical Cyclones, 1521
- Long-Term Landfill Primary and Secondary Leachate Production, 682
- Study of Recent Building Failures in the United States,
- Thermal Performance Analysis of Highly Reflective Coating on Residences in Hot and Arid Climates, 280
- Trends in United States Tidal Datum Statistics and Tide Range, 1444
- Urban Beaches: Balancing Public Rights and Private Development, 1646

Universitie

Implementing Sustainable Development through Problem-Based Learning: Pedagogy and Practice, 1079

Unsaturated soils

- Evaporation Theory for Deformable Soils, 677
- Laboratory Study of Loose Saturated and Unsaturated Decomposed Granitic Soil, 631
- Measured and Estimated Suction Indices for Swelling Potential Classification, 642
- Percolation-Induced Heat Transfer in Deep Unsaturated Zones, 679

Unsteady flow

- Advection Tests of Optimal Compact Implicit Scheme, 736
- Applicability of Kinematic, Noninertia, and Quasi-Steady Dynamic Wave Models to Unsteady Flow Routing, 757
- Dynamic Wave Study of Flow in Tidal Channel System of San Juan River, 749
- Explicit Schemes for Dam-Break Simulations, 694
- Field Verification of Two-Dimensional Surface Irrigation Model, 902
- Local Time Stepping for Modeling Open Channel Flows, 741
- Reservoir Routing using Steady and Unsteady Flow through Rockfill Dams, 740

Unsteady flow

2003 ASCE TRANSACTIONS

Shallow Turbulent Flows by Video Imaging Method, 408

Shear Stress Distribution in Partially Filled Pipes, 765 Stability of Periodically Unsteady Axisymmetric Jet, 346

Two-Dimensional Basin Flow with Irregular Bottom Configuration, 901

Use of Steady-State Pump Head-Discharge Curve for Unsteady Pipe Flow Applications, 796

Unlift

Effect of Compressive Load on Uplift Capacity of Model Piles, 673

Uplift pressure

Fluvial Entrainment of Protruding Fractured Rock, 783 Numerical Analysis of Multiple Discrete Cracks in Concrete Dams using Extended Fictitious Crack

Model, 1117 Urban areas

Costs of Best Management Practices and Associated Land for Urban Stormwater Control, 1385

Evaluating Disaster Mitigations: Methodology for Urban Infrastructure Systems, 1540

Examining Sensitivity of Impact of Taxi Traffic on Capacity and Delays at Urban Road Sections, 1317

"First Flush." Power Law and Particle Separation Diagrams for Urban Storm-Water Suspended Particulates, 478

Flood Forecasts for Urban Basin with Integrated Hydro-Meteorological Model, 799

Fuzzy Logic Spatial Decision Support System for Urban Water Management, 1386

Infrastructure Issues for Cities—Countering Terrorist Threat, 845 Kinematic Wave Model of Urban Pavement Rainfall-

Runoff Subject to Traffic Loadings, 518
Optimizing Urban Water Supply Headworks using

Probabilistic Search Methods, 1414

Reducing Car Travel in Australian Cities: Review

Report, 1372 Relationships among Urban Freeway Accidents, Traffic Flow, Weather, and Lighting Conditions,

Singapore on the Move, 1596

Transit Route Network Design using Frequency Coded Genetic Algorithm, 1305

Under Cover, 1592

Urban Beaches: Balancing Public Rights and Private Development, 1646

Urban Hazard Mitigation: Creating Resilient Cities, 1534

Urban Storm Sewer Design: Approach in Consideration of Sediments, 723

Urban development

Empirical Analysis of Relationship between Accessibility and Economic Development, 1373

Estimation of Urban Imperviousness and its Impacts on Storm Water Systems, 1418

Hydrological and Fiscal Impacts of Residential Development: Virginia Case Study, 1390

Modeling Urbanization by Accessibility in Rapid-Growth Areas, 1370

Smart Growth: Hydrologic Perspective, 1072

Sustainable Practices to Meet Shelter Needs in India, 1371

Urban planning

Assessing Extrajurisdictional and Areawide Impacts of Clustered Brownfield Developments, 1369

Modeling Urbanization by Accessibility in Rapid-Growth Areas, 1370

Urban runoff

Effects of Stormwater Infiltration on Quality of Groundwater Beneath Retention and Detention Basins, 497

Urban transportation

Empirical Analysis of Relationship between Accessibility and Economic Development, 1373

Evolution of Personal Travel in Toronto Area and Policy Implications, 1368

Sustainability and Urban Public Transportation (Twelfth Francis C. Turner Lecture), 1323

U.S. Army Corps of Engineers

A Better Barrier, 1575

The Creeping Storm, 1569

Modeling Dredging Project Cost Variations, 1459

Utilities

Economic Model to Optimize Underground Utility Protection, 270

New Pipeline Technologies, Security, and Safety, 1628 Simulation for Ground Movements due to Pipe Bursting, 855

Validation

Alternative Shear Reinforcement for Reinforced Concrete Flat Slabs, 1197

Inelastic Behavior and Ductility Capacity of Reinforced Concrete Bridge Piers under Earthquake. II: Numerical Validation, 1202

Validation of Existing Bed Load Transport Formulas using In-Sewer Sediment, 727

Value engineering Critical Success Factors for Value Management Stud-

ies in Construction, 252
Engineering the Procurement Phase to Achieve Best

Engineering the Procurement Phase to Achieve Best Value, 928

Valves

Dynamic Modeling of Pressure Reducing Valves, 775

Vanes

Phenomenological Characterization of Vortex Induced Scour, 793

Vapor

Plasma-Assisted Process for Removing NO/NO, from Gas Streams with C₂H₄ as Additive, 537

Soil Water Retention and Conductivity when Vapor Flow is Important, 881

Variability Probabilistic No

Probabilistic Nonroad Mobile Source Emission Factors, 461

Variance analysis

Variance Component Estimation and Precise GPS Positioning: Case Study, 1257

Vertical Velocity Variance in the Mixed Layer from Radar Wind Profilers, 833

Vegetation

Bacteriophages MS2 and PRD1 in Turfgrass by Subsurface Drip Irrigation, 543

- Experimental Study of Bed Load Transport through Emergent Vegetation, 744
- Field and Laboratory Evaluation of the Impact of Tall Fescue on Polyaromatic Hydrocarbon Degradation in an Aged Creosote-Contaminated Surface Soil, 470
- Lagoon Effluent Treatment using Grass Filtration, 563
- Natural Stabilization of Stored Industrial Sludges, 472
- Numerical Solution of Fully Developed Flow with Vegetative Resistance, 343
- Open Channel Flow through Different Forms of Submerged Flexible Vegetation, 780

Vehicles

- Analytical Model to Determine the Influence of Horizontal Alignment of Two-Axle Heavy Vehicles on Upgrades, 1353
- Effect of Lane Width on Capacity under Mixed Traffic Conditions in India, 1301
- Impacts of Shorter Perception-Reaction Time of Adapted Cruise Controlled Vehicles on Traffic Flow and Safety, 1300
- Model Validation for Bridge-Road-Vehicle Dynamic Interaction System, 83
- Vehicle Detection Using Video Image Processing System: Evaluation of PEEK VideoTrak, 1338

Velocity

- Application of Ergun Equation to Computation of Critical Shear Velocity Subject to Seepage, 889
- Combined Particle Image Velocimetry/Planar Laser Induced Fluorescence for Integral Modeling of Buoyant Jets, 410
- Convection Velocity of Vortex Structures in the Near Wake of a Circular Cylinder, 402
- In Situ Estimate of Shear Wave Velocity using Borehole Spectral Analysis of Surface Waves Tool, 629
- Investigation of Two- and Three-Dimensional Models of Transitional Flow Past a Square Cylinder, 423
- Measurements of Water Surface Profile and Velocity Field at a Circular Pier, 338
- Nonaqueous Phase Liquid Pool Dissolution as a Function of Average Pore Water Velocity, 536
- Possio Integral Equation of Aeroelasticity Theory, 53
- Response of Velocity and Turbulence to Sudden Change of Bed Roughness in Open-Channel Flow,
- Side Outflow from Supercritical Channel Flow, 771

Velocity head

Effects of Velocity Head and Momentum Exchange on Critical Stable Sectional Area of Downstream Throttled Surge Tank, 283

Velocity profile

Estimating Overwater Friction Velocity and Exponent of Power-Law Wind Profile from Gust Factor during Storms, 1446

Venezuela

Dynamic Wave Study of Flow in Tidal Channel System of San Juan River, 749

Ventilation

- Architectural Engineering 2003 Building Integration Solutions, 1607
- Influence of Diffuser Jet Characteristics on Indoor Air Distribution under Actual Connecting Conditions, 70
- Modeling Immune Building Systems for Bioterrorism Defense, 64

Potential Thermal Degradation of Attic Framing and Wood Sheathing, 1514

Vertical drains

- Calibration of Flow and Transport Model with a Bench-Scale Prefabricated Vertical Drain Remediation System, 585
- Consolidation of Clay with a System of Vertical and Horizontal Drains, 657
- Installation Stress in Prefabricated Vertical Drains, 659
 Piecewise-Linear Model for Large Strain Radial Consolidation, 668

Vertical forces

Evidence of High Vertical Wave-Number Behavior in a Continuously Stratified Reservoir: Boadella, Spain, 768

Vertical loads

Performance of Long Rectangular Barrettes in Granitic Saprolites, 644

Vibration

- Active Multiple Tuned Mass Dampers: A New Control Strategy, 1178
- Architectural Engineering 2003 Building Integration Solutions, 1607
- Control of Civil Structure Using an Electric Machine with Semiactive Capability, 1176
- Control of Wind-Induced Self-Excited Oscillations by Transfer of Internal Energy to Higher Modes of Vibration. I: Analysis in Two Degrees of Freedom, 339
- Control of Wind-Induced Self-Excited Oscillations by Transfer of Internal Energy to Higher Modes of Vibration. II: Application to Taut Cables, 340
- Correlation of Rheological Properties to Durability and Strength of Hardened Concrete, 1007
- Damping in Cantilevered Traffic Signal Structures under Forced Vibration, 1121
- Dynamic Characteristics of Infinite and Finite Railways to Moving Loads, 390
- Dynamic Measurements of In-Place Steel Floors to Assess Vibration Performance, 1049
- Dynamic Stability of Laminated Composite Curved Panels with Cutouts, 416
- Effects of False Floors on Vibration Serviceability of Building Floors. I: Modal Properties, 1044
- Effects of False Floors on Vibration Serviceability of Building Floors. II: Response to Pedestrian Excitation, 1045
- Estimating Soil Liquefaction in Ice-Induced Vibration of Bucket Foundation, 120
- Evaluation of Pile Diameter Effect on Initial Modulus of Subgrade Reaction, 601
- Forced Vertical Vibration of Circular Plate in Multilayered Poroelastic Medium, 424

 Frequency of Functionally Graded Plates with Three-
- Dimensional Asymptotic Approach, 381
 H, Energy Estimate of Boundary Controlled Vibrating
- Hybrid Structure Subject to Uncertain Forces, 50 Neural Networks for Decentralized Control of Cable-Stayed Bridge, 97
- Nondestructive Evaluation of Tuned-Mass-Damper-Type Vibration Absorbers using Vibration Signatures, 1028
- Nonlinear Vibration Characteristics of Damaged Concrete Beams, 1112
- Numerical Evaluation of Uniform Beam Modes, 439

- Polymer Effects on the Vibration Damping Behavior of Cement, 1027
- Semiactive Structural-Control Based on Variable Slip-Force Level Dampers, 1174
- Vibration of Plates with Constrained V-Notches or Cracks, 372
- Vibration of Thick and Thin Plates using a New Triangular Element, 415
- Vibration of Timoshenko Beams with Internal Hinge, 316
- Wave Propagation in Orthogonally Supported Periodic Curved Panels, 322
- Wavelet-Galerkin Method for Free Vibrations of Elastic Cable, 323

Vibration control

Fault Tolerance of Semiactive Seismic Isolation, 1173

Application of Dynamic System Identification to Timber Bridges, 1096

Virginia

An Alternative Approach, 1573

- Evaluating a Detection and Warning System to Deter No-Passing Zone Violations, 1354
- A Higher Profile, 1563
- Hydrological and Fiscal Impacts of Residential Development: Virginia Case Study, 1390
- The Pentagon Building Performance Report, 1629
- The Pentagon Report, 1549
- Ramping Up, 1590 Sources of Fecal Pollution in Virginia's Blackwater River, 507

Viscoelasticity

- Method for Performing Accelerated Characterization of Viscoelastic Constitutive Behavior of Asphaltic Concrete, 1021
- State Space Formulation for Linear Viscoelastic Dynamic Systems with Memory, 362

Viscoplasticity

- Analysis of Arch Dams using Coupled Trial Load and Block Element Methods, 672
- Rate-Dependent Hyperplasticity with Internal Functions, 312

Viscosity

- Laminar Water Wave and Current Passing over Porous Bed, 355
- Prepacked Grouting Process in Concrete Construction,
- Viscosity Effects on One-Dimensional Consolidation of Clay, 21

Viscous flow

Analysis of Water Waves Passing over a Submerged Rectangular Dike, 350

Visibility

Visibility Effectiveness of Hemisphere and Corner Cube Retroreflective Pavement Markers on Curved Roads, 1292

Vitrification

Waste Immobilization Technologies, 1467

Void ratio

Viscosity Effects on One-Dimensional Consolidation of Clay, 21

Volatile organic chemicals

- Biotrickling Filtration for Control of Volatile Organic Compounds from Microelectronics Industry, 516
- Estimation of Operation Time for Soil Vapor Extraction Systems, 545
- Nonequilibrium Nonaqueous Phase Liquid Mass Transfer Model for Soil Vapor Extraction Systems, 532
- Thermal Behavior of Activated Carbon Cloths Heated by Joule Effect, 569

Volcanne

The Impact of Volcanic Eruptions during the 1990s, 1538

Volume change

- Armor Stone Abrasion due to Displacements in Sea Storms, 1453
- Volume Change Behavior of Arid Calcareous Soils, 1529

Volume measurement

- Digital Elevation Model Based Volume Calculations using Topographical Data, 1264
- Estimating Earthwork Volumes of Curved Roadways: Simulation Model, 1258

Volumetric strain

- Variable Bulk Modulus Constitutive Model for Sand, 593
- Volumetric Deformation of Natural Clays, 35

Volunteers

Project Management Training and Community Service,

Vortex shedding

Nondestructive Evaluation of Tuned-Mass-Damper-Type Vibration Absorbers using Vibration Signatures, 1028

- Vortices
 Convection Velocity of Vortex Structures in the Near
- Wake of a Circular Cylinder, 402 Phenomenological Characterization of Vortex Induced Scour, 793
- Simultaneous Particle Image Velocimetry and Laser Doppler Velocimetry Measurements of Periodical Oscillatory Horseshoe Vortex System near Square Cylinder-Base Plate Juncture, 409

Walls

- Cohesive Fracturing and Stresses Caused by Hydration Heat in Massive Concrete Wall, 286
- Curvature and Bending Moments from Inclinometer Data, 18
- Cyclic Flexure Tests of Masonry Walls Reinforced with Glass Fiber Reinforced Polymer Sheets, 159
- Cyclic Performance of Concrete-Backed Stone Masonry Walls, 1142
- Energy-Dissipating Polymer Matrix Composite-Infill Wall System for Seismic Retrofitting, 1126
- Field Assessment of Unreinforced Masonry Walls Strengthened with Fiber Reinforced Polymer Laminates, 1185
- Fire Resistance of Walls and Floors using Light-Gauge Steel Shapes, 1235
- Quasi-Static Reversed Cyclic Response of Level and Stepped Cripple Walls, 1139
- Seismic Performance of Precast Reinforced and Prestressed Concrete Walls, 1114

Testing Block Probes for Wall Shear Stress Measurement in Water Flows, 703

Warpage

Elastoplastic Large Deflection Analisis of Three-DImensional Steel Frames, 1207

Model for Nonlinear Thermal Effect on Pavement Warping Stresses, 1366

Washington

Pushing the Envelope, 1556

Washington, D.C.

Center of Attention, 1564

Waste management

Framework for Recycling of Wastes in Construction, 547

Multicriteria Optimization for Infectious Medical Waste Collection System Planning, 1470

Multiobjective Risk Analysis and Optimization of Regional Hazardous Waste Management System, 1469

Thermal Stabilization of Iron-Rich Sludge for High Strength Aggregates, 1030

Waste sites

Assessing Extrajurisdictional and Areawide Impacts of Clustered Brownfield Developments, 1369

Using the Analytic Hierarchy Process for Selecting an Appropriate Fate and Transport Model for Risk-Based Decision-Making at Hazardous Waste Sites, 1476

Waste treatment

Hydrofluoric Acid Recovery from Waste Semiconductor Acid Solution by Ion Exchange, 498

Integrated Modeling of Anaerobic Fluidized Bed Bioreactor for Deicing Waste Treatment. I: Model Derivation, 454

Integrated Modeling of Anaerobic Fluidized Bed Bioreactor for Deicing Waste Treatment. II: Simulation and Experimental Studies, 455

Laboratory Pilot Test of Chromium (III) Isolation from Acid Extract of Tannery Sludge, 1468

Nanotechnology Takes Roots, 1567

Waste Immobilization Technologies, 1467

Wastewater

Activated Carbon Addition to an Activated Sludge Model Reactor for Color Removal from a Cotton Textile Processing Watewater, 568

Comparative Study of Two Bioassays for Applications in Influent Wastewater Toxicity Monitoring, 468

Hybrid Approach for Modeling Wet Weather Response in Wastewater Systems, 1426

Lagoon Effluent Treatment using Grass Filtration, 563 Modeling and Control of Oxygen Transfer in High

Purity Oxygen Activated Śludge Process, 489° Removal of Oil Grease and Chemical Oxygen Demand from Oily Automotive Wastewater by Adsorption after Chemical De-emulsification, 1478

Seismic Screening Checklists for Water and Wastewater Facilities, 1638

Toxicity Estimation of Phenolic Compounds by Bioluminescent Bacterium, 481

Wastewater disposal

Sensitivity Analysis and Comparative Performance of Outfalls with Single Buoyant Plumes, 462

Wastewater treatment

Adsorption of Negatively Charged Azo Dyes onto Surfactant-Modified Sepiolite, 527

Anaerobic Treatment of High Sulfate Wastewater with Oxygenation to Control Sulfide Toxicity, 571

Anaerobic Treatment of Synthetic Textile Wastewater Containing a Reactive Azo Dye, 514

Analytical Methods used to Measure Endocrine Disrupting Compounds in Water, 1486

Biodegradation of Mixtures of Phenolic Compounds in an Upward-Flow Anaerobic Sludge Blanket Reactor, 560

Biological Wastewater Treatment and Estrogenic Endocrine Disrupting Compounds: Importance of Colloid Organic Carbon, 1492

Combined System for Biological Removal of Nitrogen and Carbon from a Fish Cannery Wastewater, 540

Comparison of Bacterial Bioluminescence with Activated Sludge Oxygen Uptake Rates during Zinc Toxic Shock Loads in a Wastewater Treatment System, 546

Electrochemical Pretreatment of Wastewater from Color Photograph Processing Unit, 567

Electrochemical Reduction of 2,4-Dinitrotoluene in a Continuous Flow Laboratory Scale Reactor, 465

Excess Sludge Production in Membrane Bioreactors: A Theoretical Investigation, 477

Granular Bed Baffled Reactor (Grabbr): Solution to a Two-Phase Anaerobic Digestion System, 562 Modeling Nitrogen Transport in Duckweed Pond for

Secondary Treatment of Swine Wastewater, 530 Nitrogen Removal using Combined Ultracompact

Biofilm Reactor-Packed Bed System, 448
Occurrence and Degradation of Estrogenic Nonylphenol and its Precursors in Northeast Kansas Wastewater Treatment Plants, 1484

One-Step Ambient Temperature Ferrite Process for Treatment of Acid Mine Drainage Waters, 460

Oxidation-Reduction Potential as a Monitoring Tool in a Low Dissolved Oxygen Wastewater Treatment Process, 449

Removal of Metals and Radionuclides using Apatite and Other Natural Sorbents, 500

The Smaller the Better, 1589

Water

Modeling Water and Sulfuric Acid Transport through Coated Cement Concrete, 331

Water allocation policy

Allocation of Scarce Water Resources using Deficit Irrigation in Rotational Systems, 876

Water balance

Optimal Water Management for Reservoir-Based Irrigation Projects using Geographic Information System, 859

Water circulation

Dynamics of Large Polymictic Lake. I: Field Observations, 701

Dynamics of Large Polymictic Lake. II: Numerical Simulations, 702

Numerical Modeling of Saline Intrusion in Salar de Atacama, 802

Water conservation

Regulated Riparian Model Water Code, 1635

Water content

Water content

Shrink Test-Water Content Method for Shrink and Swell Predictions, 634

Water demand

Optimal Pump Scheduling in Water Supply Systems with Maximum Demand Charges, 1413

Water depth

Effects of Flow Depth on Water Flow and Solute Transport in Furrow Irrigation: Field Data Analysis, 885

Side Outflow from Supercritical Channel Flow, 771

Water discharge

Analytical Equation for Variation of Discharge in Drip Irrigation Laterals, 892

Discharge Formulas of Crump-De Gruyter Gate-Weir for Computer Simulation, 888

Discharge Rating Equation and Hydraulic Characteristics of Standard Denil Fishways, 728

Peak Discharge Scaling in Small Hortonian Watershed, 806 Radial Basis Function Neural Network for Modeling

Radial Basis Function Neural Network for Modeling Rating Curves, 816

Water distribution

Ant Colony Optimization for Design of Water Distribution Systems, 1399

Bulk Decay of Chlorine in Water Distribution Systems, 1387

Closing the Loop, 1565

Demand Forecasting for Irrigation Water Distribution Systems, 904

Modeling and Control of Vinyl Chloride in Drinking Water Distribution Systems, 542

Multiobjective Sampling Design for Water Distribution Model Calibration, 1422

Optimal Scheduling of Multiple Chlorine Sources in Water Distribution Systems, 1424

Optimization of Reservoir Management and Operation with Hedging Rules, 1388

Optimization of Water Distribution Network Design using the Shuffled Frog Leaping Algorithm, 1400

Simulation and Control of Chlorine Levels in Water Distribution Networks, 1393 Water Quality Parameter Estimation in Steady-State

Distribution System, 1392

Water flow

Cartesian Cut Cell Two-Fluid Solver for Hydraulic Flow Problems, 764

Effect of Jet Air Content on Plunge Pool Scour, 730 Fluid Motion Generated by Impact, 1456

Numerical and Experimental Study on Two-Dimensional Flood Flows with and without Structures, 777

Testing Block Probes for Wall Shear Stress Measurement in Water Flows, 703

Unleashing the Flow, 1572

Water hammer

Efficient Quasi-Two-Dimensional Model for Water Hammer Problems, 797

Water infiltration

Ecology Ditch: A Best Mangement Practice for Storm Water Runoff Mitigation, 811

Effects of Aquifer Anisotropy on the Migration of Infiltrated Stream Water to a Pumping Well, 831 Effects of Stormwater Infiltration on Quality of Groundwater Beneath Retention and Detention Basins, 497

Probability of Failure Occurrence and Recurrence in Rock Slopes Stability Analysis, 15

Water jets

Erosion of Sand by Circular Impinging Water Jets with Small Tailwater, 715

Water level fluctuations

Aquifer Response to Linearly Varying Stream Stage, 839

Water levels

Application of Fuzzy Sets Method to Identify Seepage Path through Dams, 753

Artificial Neural Network Approach for Predicting Transient Water Levels in a Multilayered Groundwater System under Variable State, Pumping, and Climate Conditions, 838

Effects of Flow Depth on Water Flow and Solute Transport in Furrow Irrigation: Field Data Analysis, 885

Water Level Measurement Locations for Coastal Aquifer Management, 1384

Water management

Decision Support System for Adaptive Water Supply Management, 1396

Economic-Engineering Optimization for California Water Management, 1395

Fuzzy Logic Spatial Decision Support System for Urban Water Management, 1386

Impact of Spring 2000 Drought Forecasts on Midwestern Water Management, 1381

Optimal Water Management for Reservoir-Based Irrigation Projects using Geographic Information System, 859

Regional Water Management Modeling for Decision Support in Irrigated Agriculture, 905

Robustness of River Basin Water Quality Models, 1398

Strategic Characterization of Water System Infrastructure and Management, 955

Water pipelines

Analytical Solution for Fluid-Structure Interaction in Liquid-Filled Pipes Subjected to Impact-Induced Water Hammer, 432

Closing the Loop, 1565

Computing Inlet Pressure Head of Multioutlet Pipeline, 910

Hybrid Approach for Modeling Wet Weather Response in Wastewater Systems, 1426

Modeling Water Pipe Breaks—Three Case Studies, 1391

Optimal Design of Multidiameter, Multioutlet Pipelines, 1401

Water policy

Strategic Characterization of Water System Infrastructure and Management, 955

Water pollution

Aerobic Biodegradation of Methyl Tert-Butyl Ether in Gasoline-Contaminated Aquifer Sediments, 520

Analysis and Prediction of Transverse Mixing Coefficients in Natural Channels, 706

Analytical Methods used to Measure Endocrine Disrupting Compounds in Water, 1486

- Evaluation of Neural Networks for Modeling Nitrate Concentrations in Rivers, 1425
- Preliminary Evaluation of Microbially Mediated Precipitation of Cadmium, Chromium, and Nickel by Rhizosphere Consortium, 443
- Reconstructing Contaminant Deposition in a San Francisco Bay Marina, California, 522
- Robustness of River Basin Water Quality Models, 1398
- Sensitivity Analysis and Comparative Performance of Outfalls with Single Buoyant Plumes, 462
- Sources of Fecal Pollution in Virginia's Blackwater River, 507
- Watershed Management, 1647

Water pressure

Dynamic Modeling of Pressure Reducing Valves, 775

Water quality

- Advection Tests of Optimal Compact Implicit Scheme, 736
- A CE-QUAL-W2 Model of Neuse Estuary for Total Maximum Daily Load Development, 1405
- Comparison of Estuarine Water Quality Models for Total Maximum Daily Load Development in Neuse River Estuary, 1407
- Consideration of Variability and Uncertainty in Phosphorus Total Maximum Daily Loads for Lakes, 1410
- Development of Three-Dimensional Hydrodynamic and Water Quality Models to Support Total Maximum Daily Load Decision Process for the Neuse River Estuary, North Carolina, 1406
- Effects of Flow Depth on Water Flow and Solute Transport in Furrow Irrigation: Field Data Analysis, 885
- Effects of Stormwater Infiltration on Quality of Groundwater Beneath Retention and Detention Basins, 497
- Endocrine Disruptors as a New Regulatory Endpoint,
- Groundwater Quality Modeling an Management Under Uncertainty, 1617
- Implications of Applying Statistically Based Procedures for Water Quality Assessment, 1409
- Integrated Approach to Total Maximum Daily Load Development for Neuse River Estuary using Bayesian Probability Network Model (Neu-BERN), 1404
- Interactive Effects of Controlled Drainage and Riparian Buffers on Shallow Groundwater Quality, 868
- Interplay of Science and Stakeholder Values in Neuse River Total Maximum Daily Load Process, 1403
- Optimal Scheduling of Multiple Chlorine Sources in Water Distribution Systems, 1424
- Projected Sulfate Redistribution as Impacted by Lake Level Stabilization Scenarios: Devils Lake, North Dakota, 1416
- Regression Model for Daily Maximum Stream Temperature, 523
- Saving the Bay, 1545
- Simulation and Control of Chlorine Levels in Water Distribution Networks, 1393
- Water Quality Parameter Estimation in Steady-State Distribution System, 1392
- World Water & Environmental Resources Congress 2003 and Related Symposia, 1648

Water resources

Mapping Root Zone Soil Moisture using Remotely Sensed Optical Imagery, 895

Water resources management

- Allocation of Scarce Water Resources using Deficit Irrigation in Rotational Systems, 876
- Integrated Hydrologic-Agronomic-Economic Model for River Basin Management, 1380
- Optimization of Reservoir Management and Operation with Hedging Rules, 1388
- Regulated Riparian Model Water Code, 1635
- Risk-Based Decisionmaking in Water Resources X, 1636
- A Visit to the Yangtze River and the Three Gorges Dam: Reflections from a People to People Ambassador Program in China, 915
- World Water & Environmental Resources Congress 2003 and Related Symposia, 1648

Water rights

Regulated Riparian Model Water Code, 1635

Water shortage

Flow Depletion of Semipervious Streams Due to Pumping, 907

Water storage

Autorun Persistence of Hydrologic Design, 836

Water supply

- Decision Support System for Adaptive Water Supply Management, 1396
- Estimation of Sustainable Yield of Some Rivers in Trinidad, 803
- Optimizing Urban Water Supply Headworks using Probabilistic Search Methods, 1414
- Strategic Characterization of Water System Infrastructure and Management, 955
- Tapping the Desert, 1560

Water supply systems

- Neural Networks and Reinforcement Learning in Control of Water Systems, 1421
- Optimal Pump Scheduling in Water Supply Systems with Maximum Demand Charges, 1413
- Seismic Screening Checklists for Water and Wastewater Facilities, 1638
- Water Utility Security: Multiple Hazards and Multiple Barriers, 849

Water surface profiles

Measurements of Water Surface Profile and Velocity Field at a Circular Pier, 338

Water table

- Drainage of Sloping Lands with Variable Recharge Model Validation and Applications, 890
- Field-Data Analysis for Stream Depletion, 824
- Interactive Effects of Controlled Drainage and Riparian Buffers on Shallow Groundwater Quality, 868
- Regional Water Management Modeling for Decision Support in Irrigated Agriculture, 905
- Water Table Profiles and discharges for an Inclined Ditch-Drained Aquifer under Temporally Variable Recharge, 869

Water temperature

Modeling the Effect of Water Diversion on the Temperature of Mountain Streams, 533

Water temperature

Regression Model for Daily Maximum Stream Temperature, 523

Water transportation

Ship Traffic Modeling Methodology for Ports, 1449

Water treatment

Counterflow Method for Measurement of Henry's Law Constants, 578

Design and Operation of Point-of-Use Treatment System for Arsenic Removal, 509

Development of Optimal Poly-Alumino-Iron Sulphate Coagulant, 526

Dynamic Mathematical Modeling of an Isothermal Three-Phase Reactor: Model Development and Validation, 513

Incorporating Reservoir Transfer into Treatment Optimization Decisions, 486

Modeling Pd-Catalyzed Destruction of Chlorinated Ethenes in Groundwater, 459

Numerical Simulation of Bromate Formation during Ozonation of Bromide, 559

Occurrence of Endocrine-Disrupting and Other Wastewater Compounds during Water Treatment with Case Studies from Lincoln, Nebraska and Berlin, Germany, 1489

Reduction of Fulvic Acid in Drinking Water by Ferrate, 445

Reduction of Nitrate, Bromate, and Chlorate by Zero Valent Iron (Fe⁰), 444

Removal of Antibiotics from Surface and Distilled Water in Conventional Water Treatment Processes, 8

Secondary Benefits of Aquifer Storage and Recovery: Disinfection By-Product Control, 490

Standardized Membrane Pore Size Characterization by Polyethylene Glycol Rejection, 9

Water treatment plants

Control of Total Chloro-x-Triazines in Conventional Drinking Water Treatment Plants, 1491

Degradation of Drinking Water Treatment Plant Infrastructure from Enhanced Coagulation, 856

Occurrence and Degradation of Estrogenic Nonylphenol and its Precursors in Northeast Kansas Wastewater Treatment Plants, 1484

The Smaller the Better, 1589

Transformation 1601

Water waves

Analysis of Water Waves Passing over a Submerged Rectangular Dike, 350

Effects of Weakly Nonlinear Water Waves on Soft Poroelastic Bed with Finite Thickness, 307

Explicit Schemes for Dam-Break Simulations, 694

Laminar Water Wave and Current Passing over Porous Bed, 355

Second-Order Radiation Boundary Condition for Water Wave Simulation with Large Angle Incidence, 434

Watershed management

Data Requirements for Load Estimation in Well-Mixed Tidal Channels, 534

Detention Pond Design and Land Use Planning for Watershed Management, 1389

A Retrofit for Long Lake, 1562

Watershed Management, 1647

2003 ASCE TRANSACTIONS

Watersheds

Mapping Root Zone Soil Moisture using Remotely Sensed Optical Imagery, 895

Modeling Storm Water Mass Emissions to the Southern California Bight, 479

Peak Discharge Scaling in Small Hortonian Watershed, 806

Real-Time Watershed Delineation System Using Web-GIS, 146

Simple Estimation of Prevalence of Hortonian Flow in New York City Watersheds, 822

Uncertainty of Weekly Nitrate-Nitrogen Forecasts using Artificial Neural Networks, 474

Wave diffraction

Numerical Model for Wave Refraction-Diffraction near Pearl River Estuary, China, 1457

Wave energy

Modeling Tropical Cyclone Wave Population of the Great Barrier Reef, 1439

Wave forces

Tentative New Formula for Maximum Horizontal Wave Forces Acting on Perforated Caisson, 1431

Wave generation

Numerical Modeling of Wave Absorbers for Physical Wave Tanks, 1428

Wave height

Revisiting Wilson's Formulas for Simplified Wind-Wave Prediction, 1438

Wave measurement

Field Measurement of Ship Waves in Victoria Harbor, 405

Validation of a Three-Dimensional Numerical Code in the Simulation of Pseudo-Natural Meandering Flows, 770

Wave pressure

Role of Wave Pressure in Bedload Sediment Transport,

Wave propagation

Analytical Solution for Fluid-Structure Interaction in Liquid-Filled Pipes Subjected to Impact-Induced Water Hammer, 432

Control of Wave Propagation in Sandwich Plate Rows with Periodic Honeycomb Core, 389 Evaluation of Numerical Models of Flood and Tide

Evaluation of Numerical Models of Flood and Tide Propagation in Channels, 4

Numerical Model for Wave Refraction-Diffraction near Pearl River Estuary, China, 1457 Role of Wave Pressure in Bedload Sediment Transport,

1455 Second-Order Radiation Boundary Condition for Water Wave Simulation with Large Angle Incidence, 434

Wave Propagation in Orthogonally Supported Periodic Curved Panels, 322

Wave reflection

Determination of Early Age Mortar and Concrete Strength by Ultrasonic Wave Reflections, 990

Wave refraction

Numerical Model for Wave Refraction-Diffraction near Pearl River Estuary, China, 1457

Wave runup

Energy Balance Model for Breaking Solitary Wave Runup, 1433 Particle Image Velocimetry Measurements within a Laboratory-Generated Swash Zone, 403

Wave spectra

Field Measurement of Ship Waves in Victoria Harbor, 405

Wave tanks

Numerical Modeling of Wave Absorbers for Physical Wave Tanks, 1428

Waves

Behavior of a Moored LNG Ship in Swell Waves, 1429

Flexible Porous Wave Barrier for Enhanced Wetlands Habitat Restoration, 284

Physical Properties of Plywood and Waferboard as Pile Cushion Materials, 615

Weather

Relationships among Urban Freeway Accidents, Traffic Flow, Weather, and Lighting Conditions, 1324

Weathering

Atmospheric Corrosion Resistance of Structural Steels,

Web beams

Beam Web Strength under Pairs of Concentrated Compression Loads, 1495

Webs

Stability of Slender Webs of Prestressed Concrete Box-Girder Bridges, 86

Ultimate Strength of Ribbed Slab Composite Beams with Web Openings, 1164

Wedges

Biparametric Models for Elastic Wedge Foundation, 293

Translational Failure Analysis of Landfills, 627

Weight

Evaluation of FWD Data for Determination of Layer Moduli of Pavements, 962

Falling Weight Deflectometer for Estimating Subgrade Elastic Moduli, 1295

Predicting Truck Load Spectra under Weight Limit Changes and its Application to Steel Bridge Fatigue Assessment, 107

Simple, Practical Method for Determining Station Weights Using Thiessen Polygons and Isohyetal Maps, 823

Weighted-Climate Parametric Hydrologist Forecasting, 817

Weirs

Discharge Formulas of Crump-De Gruyter Gate-Weir for Computer Simulation, 888

Welds

Ultimate Compressive Strength of Aluminum Plate Elements, 1226

Wells

Effects of Aquifer Anisotropy on the Migration of Infiltrated Stream Water to a Pumping Well, 831

Flow Depletion of Semipervious Streams Due to Pumping, 907

Influence of Pump Intake Location on Well Efficiency, 820

West Virginia

Corrosion Condition Evaluation at Muddy Creek Bridge, 1057

Wetlands

Flexible Porous Wave Barrier for Enhanced Wetlands Habitat Restoration, 284

Hydraulic Analysis of Orlando Easterly Wetland, 508 Wetlands at Work, 1550

Wick drains

Calibration of Flow and Transport Model with a Bench-Scale Prefabricated Vertical Drain Remediation System, 585

MIGITA

Modeling for Width Adjustment in Alluvial Rivers, 735

Wildlife

Occurrence and Effects of Endocrine Disrupting Chemicals in the Environment, 1488

Wildlife habitats

Flexible Porous Wave Barrier for Enhanced Wetlands Habitat Restoration, 284

Wind

Nondestructive Evaluation of Tuned-Mass-Damper-Type Vibration Absorbers using Vibration Signatures, 1028

Vertical Velocity Variance in the Mixed Layer from Radar Wind Profilers, 833

What Are Our Expectations, Objectives, and Performance Requirements for Wood Structures in High Wind Regions?, 1535

Wind direction

Aspects of Technological Development of Wind Turbines, 282

Wind energy

Aspects of Technological Development of Wind Turbines, 282

Wind Energy Conversion Systems, 281

Wind forces

Aeroelastic Analysis of Bridges: Effects of Turbulence and Aerodynamic Nonlinearities, 380

Control of Wind-Induced Self-Excited Oscillations by Transfer of Internal Energy to Higher Modes of Vibration. 1: Analysis in Two Degrees of Freedom,

Control of Wind-Induced Self-Excited Oscillations by Transfer of Internal Energy to Higher Modes of Vibration. II: Application to Taut Cables, 340

Detection of Wind-Induced Response by Wavelet Transformed GPS Solutions, 1271

Dynamics of Large Polymictic Lake. II: Numerical Simulations, 702

Semiactive Tuned Liquid Column Dampers: Experimental Study, 1177 Switching Oil Damper with Built-in Controller for Structural Control, 1170

Wind Speeds in ASCE 7 Standard Peak-Gust Map: Assessment, 1125

Wind loads

Aerodynamic Loads on Tall Buildings: Interactive Database, 1123

Aeroelastic Balance, 315

Design Wind Speed Prediction, 1208

Wind loads

Dynamic Response of Suspension Bridge to High Wind and Running Train, 76

Efficacy of Tuned Mass Dampers for Bridge Flutter Control, 1210

Guide to the Use of the Wind Load Provisions of ASCE 7-02, 1619

Quantitative Model to Forecast Changes in Hurricane Vulnerability of Regional Building Inventory, 846

Wind speed

Aspects of Technological Development of Wind Turbines, 282

Estimating Uncertainty in the Extreme Value Analysis of Data Generated by a Hurricane Simulation Model,

Exaggeration of Wind Conditions in Hurricane Floyd and Other Tropical Cyclones, 1521

Wind Speeds in ASCE 7 Standard Peak-Gust Map: Assessment, 1125

Wind tunnels

Aerodynamic Loads on Tall Buildings: Interactive Database, 1123

Aeroelastic Balance, 315

Wind Energy Conversion Systems, 281

Wind velocity

Aspects of Technological Development of Wind Turbines, 282

Estimating Overwater Friction Velocity and Exponent of Power-Law Wind Profile from Gust Factor during Storms, 1446

Vertical Velocity Variance in the Mixed Layer from Radar Wind Profilers, 833

Wind and Stream Flow Induced Reaeration, 574

Wind Energy Conversion Systems, 281

Wind waves

Performance of Coastal Structures against Sequences of Hurricanes, 1452

Revisiting Wilson's Formulas for Simplified Wind-Wave Prediction, 1438

Implementing an Inclusive Curriculum for Women in Engineering Education, 1077

Adaptive Wood Composite: Experiment, 1152

Computational Analysis of Quality Reduction during Drying of Lumber due to Irrecoverable Deformation. I: Orthotropic Viscoelastic-Mechanosorptive-Plastic Material Model for the Transverse Plane of Wood.

Computational Analysis of Quality Reduction during Drying of Lumber due to Irrecoverable Deformation. Algorithmic Aspects and Practical Application,

Connectors for Timber-Lightweight Concrete Composite Structures, 1237

Creep of Wood I-Joists Exposed to Abnormally High Moisture Conditions, 1497

Development and Application of Wood Shear Wall Reliability Model, 1124

Development of Design Values for Wood-Plastic Composite Materials, 1010

Effect of Waveform and Loading Sequence on Low-Cycle Compressive Fatigue Life of Spruce, 971

Effects of Finish Materials and Dynamic Loading on the Cyclic Response of Woodframe Shearwalls,

Load and Resistance Factor Design of Timber Joints: International Practice and Future Direction, 3 Load-Duration Behavior of Wood-Plastic Composites,

Modeling of Moisture Behavior of Wood Planks in

Wood floors

Models for Concentrated Load Performance Assessment of Isotropic Wood Floor Sheathing, 1188

Residential Floor Systems: Wood I-Joist Creep Behavior, 61

Wooden structures

Nonvented Flat Roofs, 60

Deflection of Metal Plate Connected Wood Trusses with Nontriangulated Openings, 1238

Effects of Loading Protocol on the Cyclic Response of Woodframe Shearwalls, 1220

Load-Sharing and Redistribution in a One-Story Woodframe Building, 1209

Nonlinear Analysis as a Diagnostic Tool for the Strengthening of an Old Wooden Dome, 1223

Potential Thermal Degradation of Attic Framing and Wood Sheathing, 1514

What Are Our Expectations, Objectives, and Performance Requirements for Wood Structures in High Wind Regions?, 1535

Workspace

Guidelines for Estimating Capacity at Freeway Reconstruction Zones, 1352

Neuro-Fuzzy Logic Model for Freeway Work Zone Capacity Estimation, 1342

Radial Basis Function Neural Network for Work Zone Capacity and Queue Estimation, 1343

Viscosity Effects on One-Dimensional Consolidation of Clay, 21

Young's modulus

Examination of Bulge Test for Determining Residual Stress, Young's Modulus, and Poisson's Ratio of 3C-SiC Thin Films, 43

Simulation of Municipal Solid Waste Incinerator Ash/ Cement Systems by Means of Factorial Experiments,

"First Flush," Power Law and Particle Separation Diagrams for Urban Storm-Water Suspended Particulates, 478

Fuzzy Multicriteria Model for Postearthquake Land-Use Planning, 1524

Simultaneous Zonation and Calibration of Pipe Net-work Parameters, 734

Author Index

Ababneh, Ayman

Chloride Penetration in Nonsaturated Concrete, 982

Abbas, Montasir M.

On-Line Measure of Shockwaves for ITS Applications, 1283

Abbasi, Fariborz

Effects of Flow Depth on Water Flow and Solute Transport in Furrow Irrigation: Field Data Analysis. 885

Evaluation of Various Surface Irrigation Numerical Simulation Models, 882

Overland Water Flow and Solute Transport: Model Development and Field-Data Analysis, 867

Abbott, David G.

High-Profile Tunneling, 1580

Abdalla, Basel

see Sargand, Shad M., 664

Abdelgader, Hakim S.

Stress-Strain Relations and Modulus of Elasticity of Two-Stage Concrete, 1000

Abdel-Halim, Mohamed A. H.

Cyclic Performance of Concrete-Backed Stone Masonry Walls, 1142

Abdel-Qader, Ikhlas, P.E.

Analysis of Edge-Detection Techniques for Crack Identification in Bridges, 152

Abdelrahman, Magdy, ed.

see Azizinamini, Atorid, ed., 1622

Abdoun, Tarek

Pile response to Lateral Spreads: Centrifuge Modeling, 661

see Sharp, Michael K., 684

Abdoun, Tqarek

see Dobry, Ricardo, 662

Abdulhai, Baher

Impact of Dynamic and Safety-Conscious Route Guidance on Accident Risk. 1327

Reinforcement Learning for the True Adaptive Traffic Signal Control, 1316

Abduljauwad, Sahel N.

see Azam, Shahid, 1529

Abdul-Wahab, Sabah A

Statistical Prediction of Atmospheric Corrosion from Atmospheric-Pollution Parameters, 1483

Ahe Masata

see Le Diouron, Thomas, 339

see Le Diouron, Thomas, 340

Abeley, Andrei V.

Effects of Cross Anisotropy on Three-Dimensional Behavior of Sand. 1: Stress-Strain Behavior and Shear Banding, 301

see Lade, Poul V., 302

Aberle, J.

Straight Benthic Flow-Through Flume for In Situ Measurement of Cohesive Sediment Dynamics, 698

Abichou, Tarek

see Albright, William H., 1568

Aboobaker, N.

Fractionation and Segregation of Suspended Particles using Acoustic and Flow Fields, 492

Aboumoussa, Walid, P.E.

Thermal Movements in Concrete: Case Study of Multistory Underground Car Park, 1026

AbouRizk, Simaan

see Salem, Ossama, 841

AbouRizk, Simaan M.

see Hajjar, Dany, 11

Abousleiman, Younane

see Kanj, Mazen, 419

Abraham, O.

see Chammas, R., 17

Abrahams, Athol D.

Bed-Load Transport Equation for Sheet Flow, 709

Abubakar, Sanni A.

see Udoeyo, Felix F., 985

Abudayyeh, Osama, P.E.

Analysis of Occupational Injuries and Fatalities in Electrical Contracting Industry, 214

As-Built Information Model for Bridge Maintenance, 137

Undergraduate Research Mentoring Model in Construction Engineering and Management, 205

see Abdel-Qader, Ikhlas, P.E., 152

see Randolph, Dennis A., P.E., 949

Abu-Farsakh, Murad

Numerical Parametric Study of Piezocone Penetration Test in Clays, 29

Ackerman, Drew

Modeling Storm Water Mass Emissions to the Southern California Bight, 479

Ackers, John

see Butler, David, 721

Adachi, Jou

see Mizumura, Kazumasa, 771

Adams, (

Removal of Antibiotics from Surface and Distilled Water in Conventional Water Treatment Processes, 8

Adams, C. F.

Control of Total Chloro-x-Triazines in Conventional Drinking Water Treatment Plants, 1491

Adams, Craig D.

see Beardsley, Michael, 542

Adams, E. Eric

see Socolofsky, Scott A., 786

Adamsen

2003 ASCE TRANSACTIONS

Adamsen, F. J.

see Zerihun, D., 878

Adamsen, Floyd J.

see Abbasi, Fariborz, 867

see Abbasi, Fariborz, 885

Adamsson, Asa

Bed Shear Stress Boundary Condition for Storage Tank Sedimentation, 521

Adel, M. M.

see Ghanem, Ana, 531

Adeli, Hojjat

Neuro-Fuzzy Logic Model for Freeway Work Zone Capacity Estimation, 1342

see Jiang, Xiaomo, 1311

see Karim, Asim, 1290

see Karim, Asim, 1299

see Karim, Asim, 1343

Adey, Bryan

Supply and Demand System Approach to Development of Bridge Management Strategies, 853

see Frangopol, Dan M., ed., 1623

Adrian, D. D.

see Ojha, C. S. P., 748

Afshar, Abbas

see Moradi-Jalal, Mahdi, 875

Agassi, M.

see Mirlas, V., 866

Aglietti, G. S.

Experimental Validation of Lagrange-Rayleigh-Ritz Modeling Technique for Mass Loaded Actively Controlled Panels, 41

Agrawal, A. K

Applications of Some Semiactive Control Systems to Benchmark Cable-Stayed Bridge, 1169

see He, W. L., 1175

Aguirre-Pe, Julián

Particle Densimetric Froude Number for Estimating Sediment Transport, 738

Ahlfeld, David, P.E.

Case Study: Impact of Reservoir Stratification on Interflow Travel Time, 792

Ahlfeld, David P.

see Barlow, Paul M., 1383

Ahmad, Irtishad, P.E.

Construction of a Bridge in a Developing Country: A Bangladesh Case Study, 934

Ahmad, Mobin-ud-Din

see Scott, Christopher A., 895

Ahmad, Z.

Quasi-Theoretical End-Depth-Discharge Relationship for Rectangular Channels, 874

Ahmed, Syed M.

Use of Quality Function Deployment in Civil Engineering Capital Project Planning, 237

see Ahmad, Irtishad, P.E., 934

Ahn, J.

see Lee, C., P.E., 1159

Ahn, Jae Hyun

see Yoo, Chulsang, 814

Ahrens, Dar

see Cox, Robert F., 213

Ahrens, John P.

Simple Equations to Calculate Fall Velocity and Sediment Scale Parameter, 1443

Ahverre, Mathieu

see Tait, Simon J., 726

Akcin, Hakan

see Kutoglu, Hakan S., 1269

Akgül, Ferhat

Rating and Reliability of Existing Bridges in a Network, 114

Akinci, Burcu

Exploiting Motor Vehicle Information and Communications Technology for Transportation Engineering, 1340

Akiyama, Juichiro

see Shige-eda, Mirei, 777

Akkar, Sinan D.

see Miranda, Eduardo, 1255

Akkaya, Yilmaz

see Voigt, Thomas, 990

Aktan, A. Emin

see Catbas, F. Necati, 1028

see Nagavi, Razi S., P.E., 1192

Akunna, J. C.

see Baloch, M. 1., 562

Alaee, Farshid Jandaghi

Fracture Model for Flexural Failure of Beams Retrofitted with CARDIFRC, 394

Retrofitting of Reinforced Concrete Beams with CAR-DIFRC, 176

Alagiyawanna, A. M. N.

see Sugimoto, M., 613

Alagusundaramoorthy, P.

Flexural Behavior of R/C Beams Strengthened with Carbon Fiber Reinforced Polymer Sheets or Fabric, 188

Stability of Stiffened Plates with Initial Imperfections, 365

Al-Amoudi, Omer S. B.

see Azam, Shahid, 1529

Al-Battaineh, Hussien T.

see Abudayyeh, Osama, P.E., 137

Albermani, F.

see Chau, K. W., 1212

Albrecht, Pedro

Atmospheric Corrosion Resistance of Structural Steels, 961

Albright, William H.

Examining the Alternatives, 1568

Aldrich, John, P.E.

A Culvert for Abram Creek, 1597

Ales, Joseph M., Jr.P.E.

Wide Open, 1602

Alexander, Richard B.

see McMahon, Gerard, 1408

Alhan, Cenk, S.M.

see Gavin, Henri, 1173

Ali, Md. Hazrat

Optimal Water Management for Reservoir-Based Irrigation Projects using Geographic Information System, 859

Al-Kaisy, Ahmed

Guidelines for Estimating Capacity at Freeway Reconstruction Zones, 1352

Al-Khomairi, A. M.

Use of Steady-State Pump Head-Discharge Curve for Unsteady Pipe Flow Applications, 796

Allen, David H.

see Berthelot, Curtis F., 1021

Allen, James R.

see Nordstrom, Karl F., 1427

Allen, R. G.

see Irmak, S., 887

see Irmak, S., 896

see Irmak, S., 898

Allen, Richard G. see Hargreaves, George H., 865

see Itentisu, Daniel, 906

Allouche, E. N.

Software for Planning and Cost Control in Directional Drilling Projects, 248

Allouche, Erez N., P.E.

see Baumert, Michael E., P.E., 844

Almedeij, Jaber H.

Bedload Transport in Gravel-Bed Streams with Unimodal Sediment, 785

Almishari, Salman

see Jannadi, Osama Ahmed, 253

Al-Momani, Ayman H.

Housing Quality: Implications for Design and Management, 1377

Almoney, Keith, P.E.

see Loper, James, P.E., 1599

Almudhafar, Shaheed

see Chambers, Janice J., 1122

Al-Qadi, Imad L.

see Elseifi, Mostafa A., 963

see Loulizi, Amara, 1294

AL-Qassab, M.

Wavelet-Galerkin Method for Free Vibrations of Elastic Cable, 323

Alshibli, Khalid A.

Strain Localization in Sand: Plane Strain versus Triaxial Compression, 625

Al-Tamimi, A. K.

Assessment of Self-Compacting Concrete Immersed in Acidic Solutions, 1003

Altoontash, Arash

see Lowes, Laura N., 1251

Altunkavnak, Abdüsselam

see Şen, Zekai, 836

Alum, Absar

see Enriquez, Carlos, 543

Aluru, N. R.

see Chatterjee, Aveek N., 44

Aluwihare, Shriyangi

Measurement of Evaporation on Bare Soil and Estimating Surface Resistance, 577

Alvarado, Andrés

see De Biévre, Bert, 871

Alvarez, Diego A.

see Hurtado, Jorge E., 1195

Amde, Amde M.

see Ragavan, Vinasithamby, 1089

Amekudzi, Adjo

Assessing Extrajurisdictional and Areawide Impacts of Clustered Brownfield Developments, 1369

American Society of Civil Engineering

Minimum Design Loads for Buildings and Other Structures, 1627

American Society of Civil Engineers

Regulated Riparian Model Water Code, 1635

American Society of Civil Engineers / Structural Engineering Institute

Seismic Evaluation of Existing Buildings, 1637

American Society of Civil Engineers / Society of Fire Protection Engineers

Standard Calculation Methods for Structural Fire Protection, 1641

American Society of Civil Engineers

Standard Practice for the Design and Operation of Hail Suppression Projects, 1642

Transactions of the American Society of Civil Engineers 2002, 1645

Amiri-Simkooei, AliReza

Formulation of L₁ Norm Minimization in Gauss-Markov Models, 1261

Least-Squares Formula for Zero Error (/iZ/d0) of Electromagnetic Distance Measuring Instruments, 1277

Ammar, Abdurahman

Indicator Variables Model of Firm's Size-Profitability Relationship of Electrical Contractors using Financial and Economic Data, 219

Amorim, L. V.

Use of Residential Construction Waste and Residues from Red Ceramic Industry in Alternative Mortars, 550

An, Ping

see Phoon, Kok-Kwang, 640

Anand, K. B.

Laboratory-Based Productivity Study on Alternative Masonry Systems, 225

Anand, Malini

see Walsh, Kenneth D., 58

Anandarajah

Anandarajah, A.

Mechanism Controlling Permeability Change in Clays due to Changes in Pore Fluid, 594

see Yao, M., 347

Andersland, Orlando B

Frozen Ground Engineering, 1616

Anderson, J. B.

Case History Evaluation of Laterally Loaded Piles, 596

Anderson, James E.

see Mueller, Sherry A., 1478

Anderson, Keith A.

see Li, Hebi, 524

Andrade, Jorge C.-R.

Design of Highway Bridges: Natural Place for CBR, 144

Aneja, Viney P.

see Das, Mita, 570

Ang, Alfredo H-S.

see Zhao, Yan-Gang, 1215

Angelides, Demos C.

see Sgouridis, Sgouris P., 1447

Annachhatre, Ajit P.

see Gheewala, Shabbir H., 512

Annadurai, G

Floc Characteristics and Removal of Turbidity and Humic Acid from High-Turbidity Storm Water, 511

Annen, Catherine

The Impact of Volcanic Eruptions during the 1990s, 1538

Ansari, Sarfaraz A.

Influence of Cohesion on Scour under Sumerged Circular Vertical Jets, 798

Anson, Michael

see Lu, Ming, 259

Antonopoulos, Costas P.

Experimental Investigation of FRP-Strengthened RC Beam-Column Joints, 161

Anumba, C. J.

see Ren. Z., 145

Anwar, Arif A.

Hydraulically Efficient Power-Law Channels, 861

Apelt, Colin

see Nielsen, Chris, 758

Aquino, Sérgio F.

Production of Soluble Microbial Products (SMP) in Anaerobic Chemostats under Nutrient Deficiency, 561

Arakawa, Toshiharu

see Satake, Naoki, 1129

Aramaki, Toshiya

see Seo, Seongwon, 504

see aco, acongwon, au4

Aramvareekul, Peerapong

see Rojas, Eddy M., 202

see Rojas, Eddy M., 947

Archambault, M.-H

see Tremblay, R., 1245

Archetti, Renata

Assessment of Risk due to Debris Flow Events, 1532

see Tomasicchio, Giuseppe R., 1453

Archuleta, Edmund G., P.E.

see Steele, James D., P.E., 1560

Arditi, David

see Kale, Serdar, 944

Aref, Amjad J.

Energy-Dissipating Polymer Matrix Composite-Intill Wall System for Seismic Retrofitting, 1126

Ariaratnam, S. T.

see Allouche, E. N., 248

Ariaratnam, Samuel

see Salem, Ossama, 841

Ariaratnam, Samuel T. see Colwell, Donald A. F., 203

Arikan, Metin

see Bakatjan, Sandalkhan, 208

Aristizábal-Ochoa, J. Darío

Elastic Stability and Second-Order Analysis of Three-Dimensional Frames: Effects of Column Orientation, 417

Armagan, Bulent

Adsorption of Negatively Charged Azo Dyes onto Surfactant-Modified Sepiolite, 527

Arnaud, Laurent

Rheological Characterization of Heterogeneous Materials with Evolving Properties, 991

Arriaga, Fabiana

see Zornberg, Jorge G., 581

Aruljayachandran, S.

see Alagusundaramoorthy, P., 365

Arulnathan, Rajendram

see Wehling, Timothy M., 667

Asfaw, M.

see Maru, Savita, 1136

Ashford, Scott A.

Evaluation of Pile Diameter Effect on Initial Modulus of Subgrade Reaction, 601

Ashley, Richard

European Research into Sewer Sediments and Associated Pollutants and Processes, 720

Ashour, Mohamed

Lateral Loaded Pile Response in Liquefiable Soil, 618

Askari, Faradjollah

see Farzaneh, Orang, 591

Astaneh-Asl, Abolhassan

see McMullin, Kurt Michael, 1205

Asteris, P. G.

Lateral Stiffness of Brick Masonry Intilled Plane Frames, 1187

Åström

see Bergström, 119

Atis, C. D.

see Kharkovsky, S. N., 984

Atis, Cengiz Duran

Abrasion-Porosity-Strength Model for Fly Ash Concrete, 1009

High-Volume Fly Ash Concrete with High Strength and Low Drying Shrinkage, 978

Attalla, Mohamed

Reconstruction of the Building Infrastructure: Two Performance Prediction Models, 843

Attalla, Mohamed, P.E.

Predicting Cost Deviation in Reconstruction Projects: Artificial Neural Networks versus Regression, 243

Au, F. T. K.

Construction Control of Reinforced Concrete Arch Bridges, 75

Au, S. K.

Subset Simulation and its Application to Seismic Risk Based on Dynamic Analysis, 382.

Au. S. K. A.

Factors Affecting Long-Term Efficiency of Compensation Grouting in Clays, 603

Aubeny, Charles

Suction Caisson Capacity in Anisotropic, Purely Cohesive Soil, 34

Audeves, D.

see Yang, J., 513

Audino, Michael J.

see Suzuki, Yoshinori, 1308

Augarde, Charles E.

Prediction of Undrained Sinkhole Collapse, 597

Averbuh, I.

see Volokh, K. Yu., 303

Ayotte, Frank J., P.E.

see Pisano, William C., P.E., 719

Ayre, Mary

see Mills, Julie, 1077

Ayyub, Bilal M., P.E.

Risk-Based Expenditure Allocation for Infrastructure Improvement, 115

Azam, Shahid

Volume Change Behavior of Arid Calcareous Soils, 1529

Azari, Haleh

Optimum Compaction Temperature for Modified Binders, 1347

Azhar, Salman

see Ahmad, Irtishad, P.E., 934

Azizinamini, Altorod, P.E.

see Horton, Richard, P.E., 1598

Azizinamini, Atorid, ed.

High Performance Materials in Bridges, 1622

Babovic, Vladan

see Vojinovic, Zoran, 1426

Babu, N. Ramesh

see Sivakumar, PL., 147

Badolato, Edward V.

see Gilbert, Paul. H., P.E., 845

Bae, Sungjin

Early Cover Spalling in High-Strength Concrete Columns, 1116

Baecher, Gregory B.

see Gilbert, Paul. H., P.E., 845

Baehr, Arthur L.

see Fischer, David, 497

Bahar, O.

Instantaneous Optimal Wilson-O Control Method, 418

Bahnfleth, William

see Kowalski, Wladyslaw, 64

Bahrainy, Hossein

Natural Disaster Management in Iran during the 1990s—Need for a New Structure, 1375

Bahuguna, P. P.

Correlation Survey for Shaft Deepening in Digwadih Underground Coal Mine, 1260

Baise, Laurie G.

Site Response at Treasure and Yerba Buena Islands, California, 619

Bakatjan, Sandalkhan

Optimal Capital Structure Model for BOT Power Projects in Turkey, 208

Baker, G.

see Chen. G., 1234

Baker, R.

A Second Look at Taylor's Stability Chart, 686

Baker, William, P.E.

see McCormick, Shane, 1561

Balakrishnan, A. V.

Possio Integral Equation of Aeroelasticity Theory, 53

Baldwin, Charles

see Thomson, Bruce M., 500

Balendra, T.

Overstrength and Ductility Factors for Steel Frames Designed According to BS 5950, 1183

Ball, Daniel R.

Lean Management of Environmental Consulting, 940

Balmer, Daniel M.

Effect of Bridge Deck Thickness on Properties and Behavior of Bridge Decks, 1502

talach M I

Granular Bed Baffled Reactor (Grabbr): Solution to a Two-Phase Anaerobic Digestion System, 562

Bammi, Sachin

see Frey, H. Christopher, 461

Banan, M. R.

see Bahar, O., 418

Banaszak, James E.

see Rittmann, Bruce E., 529

Banchik, Carlos A., P.E.

Riding High in Las Vegas, 1557

Bandini

2003 ASCE TRANSACTIONS

Bandini, P.

see Carraro, J. A. H., 671

Bangera, Nitin U.

see Martin, Amy Epps, 1337

Bank, Lawrence C.

see Mirmiran, Amir, 1073

Barakat, Samer A.

see Abdel-Halim, Mohamed A. H., 1142

Barber, Michael E.

Ecology Ditch: A Best Mangement Practice for Storm Water Runoff Mitigation, 811

Barbero, Ever J.

Interaction between Static Fatigue and Zero-Stress Aging in E-glass Fiber Composites, 157

Barlaz, M. A.

see Hossain, M. S., 691

Barlow, Paul M.

Conjunctive-Management Models for Sustained Yield of Stream-Aquifer Systems, 1383

Barnes, David L., P.E.

Estimation of Operation Time for Soil Vapor Extraction Systems, 545

Barnes, Edward M.

see Colaizzi, Paul D., 862

see Colaizzi, Paul D., 863

Barrett, Michael E., P.E.

Performance, Cost, and Maintenance Requirements of Austin Sand Filters, 1402

Barrish, Raymond A.

see Catbas, F. Necati, 1028

Barros, Mario T. L.

Optimization of Large-Scale Hydropower System Operations, 1397

Barsanti, James R., P.E.

see Pisano, William C., P.E., 719

Basağaoğlu, Hakan

Rate Parameters for Methyl tert-Butyl Ether Biodegradation via a Radial Diffusion Model, 510

Dasak, P.

see Lekha, K. R., 675

Bascià, A.

Simultaneous Zonation and Calibration of Pipe Network Parameters, 734

Bashford, Howard H.

Implications of Even Flow Production Methodology for U.S. Housing Industry, 235

see Walsh, Kenneth D., 58

Baskar, K.

see Shanmugam, N. E., 1204

Bassin, Richard B., P.E.

Leadership and Communications in Civil Engineering: Past, Present, and Future, 930

Bastiaanssen, Wim G. M.

see Scott, Christopher A., 895

Bates, P. D.

see Wilson, C. A. M. E., 780

Batiste, Susan N.

see Alshibli, Khalid A., 625

Batson, Gordon B., P.E.

see Reza, Farhad, P.E., 1018

Battersby, Leslie C.

see Yates, J. K., 269

Baumert, Michael E., P.E.

Real-Time Monitoring for Quality Delivery of Directional Drilling Installations, 844

Bautista, E.

General Characteristics of Solutions to the Open-Channel Flow, Feedforward Control Problem, 873

Baxter, S. C.

see Graham-Brady, L. L., 397

Baykal, O.

see Yanalak, M., 1264

Bayrak, Oguzhan

see Bae, Sungjin, 1116 see Binici, Baris, 1198

Bayrak, Temel

see Yalçinkaya, Mualla, 1274

Bažant, Zdeněk

see Cusatis, Gianluca, 436

Bažant, Zdeněk P.

Asymptotic Matching Analysis of Scaling of Structural Failure Due to Softening Hinges. 1: Theory, 353

Asymptotic Matching Analysis of Scaling of Structural Failure Due to Softening Hinges. II: Implications, 354

Cohesive Fracturing and Stresses Caused by Hydration Heat in Massive Concrete Wall, 286

Decontamination of Radionuclides from Concrete by Microwave Heating. 1: Theory, 368

see Cusatis, Gianluca, 435

see Zi, Goangseup, 369

Beach, Jeffrey E.

see Lutes, Loren D., 1166

Beaman, Derek, P.E.

see McKinlay, Bruce, P.E., 1556

Beard, M. D.

Ultrasonic Guided Waves for Inspection of Grouted Tendons and Bolts, 986

Beardsley, Michael

Modeling and Control of Vinyl Chloride in Drinking Water Distribution Systems, 542

Beavers, J. E.

see Henderson, R. C., 1249

Beavers, James E., ed.

Advancing Mitigation Technologies and Disaster Response for Lifeline Systems, 1605

Bechtel, Tom B., P.F.

Laminar Pipeline Flow of Wastewater Sludge: Computational Fluid Dynamics Approach, 708

Beck, Barry F., ed.

Sinkholes and the Engineering and Environmental Impacts of Karst, 1639

AUTHOR INDEX

Beck, I. L.

see Au. S. K., 382

Beck, James L.

see Yuen, Ka-Veng, 285

Beck, M. B.

see Osidele, Olufemi O., Res. Assoc., 1411

see Singh, Sushil K., 506

Beck, Stuart

see Parker, Gary, 784

Becker, Jens

Characterization of Cement-Based Materials using Diffuse Ultrasound, 440

Becnel, Byron, P.E.

see Titi, Hani, P.E., 1297

Becque, Jurgen

Analytical Models for Concrete Confined with FRP Tubes, 160

Bedient, Philip B.

Radar-Based Flood Warning System Applied to Tropical Storm Allison, 834

Behr, Richard A.

see Memari, Ali M., 63

Bejankiwar, Rajesh S.

Electrochemical Pretreatment of Wastewater from Color Photograph Processing Unit, 567

Bekker, Kristján F.

see Korom, Scott F., P.E., 820

Bell, Ioel

see Prunty, Lyle, 499

Bell, Lansford C.

Forecasting Construction Staffing for Transportation Agencies, 952

Bella, David A.

Plug and Chug, Cram and Flush, 1060

Benavides, Jude A.

see Bedient, Philip B., 834

Benboudjema, Farid

see Ababneh, Ayman, 982

Benedetto, A.

Integrated Methodology for Design of Polluted Water Control System of Road Infrastructures for Environmental Protection, 1293

Bengassem, Jamal

see Bennis, Saad, 747

Benjamin, Mark M.

see Chang, Yu-Jung, 446

Benmokrane, B.

see Karbhari, V. M., 182

Benmokrane, Brahim

see Zhang, Burong, 1006

Bennett, R. M.

see Henderson, R. C., 1249

Bennis, Saad

Hydraulic Performance Index of a Sewer Network, 747

Benoît, Jean

Use of an Instrumented Flat Dilatometer in Soft Varved Clay, 692

Besiak

Benson, Craig H.

see Albright, William H., 1568

Bento, João

see Andrade, Jorge C.-R., 144

Bentur, Arnon

see Peled, Alva, 1025

Benyamini, Y. see Mirlas, V., 866

Benzoni, G.

Assessment of Shear Forces on Bridge Abutments: Simplified Method, 74

Beran, J. A.

see Malvar, L. J., 163

Berechman, Joseph

see Ozbay, Kaan, 1373

Bergdahl, Lars

see Adamsson, Åsa, 521

Bergman, L. A.

see Dyke, S. J., 1167

Bergman, Lawrence A.

see Moon, Seok J., 291 see Schenk, Christian A., 366

Bereström

Friction Measurement on Cycleways using a Portable Friction Tester, 119

Berlamont, Jean E.

Shear Stress Distribution in Partially Filled Pipes, 765

Berman, Jeffrey

Plastic Analysis and Design of Steel Plate Shear Walls,

Bernabeu, A.

see Muñoz-Perez, Juan J., 1436

Berndtsson, Ronny

see Bhunya, P. K., 825

Bernold, Leonhard E.

Economic Model to Optimize Underground Utility Protection, 270

see Lee, Junbok, 201

Berry, Duane F.

see Tadanier, Christopher J., 447

Berstein, Harvey M.

Measuring Productivity: An Industry Challenge, 1600

Bertero, Vitelmo V.

see Bozorgnia, Yousef, 1214

Berthelot, Curtis F.

Method for Performing Accelerated Characterization of Viscoelastic Constitutive Behavior of Asphaltic Concrete, 1021

Berthouex, P. M.

see Chen, Shyi-Tien, 572

Besjak, Charles, P.E.

see McCormick, Shane, 1561

Bessler

Bessler, Florian T.

Water Reservoir Control with Data Mining, 1382

Besterfield, Glen

Full-Scale Testing of Procedures for Assembling Trunnion-Hub-Girder in Bascule Bridges, 94

Betti, Raimondo

see Lus, Hilmi, 336

see Lus, Hilmi, 337

Bezkorovainy, Paul

Strength Curves for Metal Plates in Compression, 1225

Bezzola, Gian Reto

see Schatzmann, Markus, 774

Bhandari, Alok

see Keller, Heather, 1484

Bhandari, Alok, P.E.

see Xu, Fangxiang, 565

Bhattacharva, B.

Neural Networks and Reinforcement Learning in Control of Water Systems, 1421

Bhatti, M. Asghar, P.E.

see Obadat, M., 48

Bhatti, T. S.

see Shikha, 281

see Shikha, 282

Bhunya, P. K.

Simplified Two-Parameter Gamma Distribution for Derivation of Synthetic Unit Hydrograph, 825

Biggar, K. W.

see Sego, D. C., 121

Billington, David P.

see Honigmann, Chelsea, 84

see Saliklis, Edmond P., 1113

Billington, Sarah L.

see Kwan, Wing-Pin, 81

see Kwan, Wing-Pin, 82

see Kwan, Wing-Pin, 1140

Bilyeu, John

see Chen, Dar-Hao, 1043

Binici, Baris

Punching Shear Strengthening of Reinforced Concrete Flat Plates using Carbon Fiber Reinforced Polymers,

Binienda, W. K.

Creep of Polymer Matrix Composites. II: Monkman-Grant Failure Relationship for Transverse Isotropy,

see Robinson, D. N., 318

Birgönül, Talat

see Dikmen, Irem, 942

Birke, Volker

Design, Construction, and Operation of Tailored Permeable Reactive Barriers, 1490

Birkland, Thomas A.

River Ecology and Flood Hazard Mitigation, 1523

2003 ASCE TRANSACTIONS

Rischoff Potor H

Tension Stiffening and Cracking of Steel Fiber-Reinforced Concrete, 981

Use of Fibers and Welded-Wire Reinforcement in Construction of Slabs on Ground, 1498

Bishop, Paul L.

see Zhang, Jian, 1465

Biswas, G.

see Saha, A. K., 423

Bizier, Paul, ed.

World Water & Environmental Resources Congress 2003 and Related Symposia, 1648

Bizindayyi, L.

Experimental Investigation of Bonded Fiber Reinforced Polymer-Concrete Joints under Cyclic Loading, 171

Blackburn, J.

Suitability of Dynamic Modeling for Flood Forecasting during Ice Jam Release Surge Events, 118

Blackmore, D.

see Aboobaker, N., 492

Blais, J. F.

see Shen, S. B., 503

see Shen, S. B., 1468

Blais, Jean-Francois

see Meunier, Nathalie, 525

Bloom, Nicolas S.

see Looney, Brian B., 539

Bobrow, Dan J.

see Hashash, Youssef M. A., 626

Rocchiola D

Testing Block Probes for Wall Shear Stress Measurement in Water Flows, 703

Boes, Robert M.

Hydraulic Design of Stepped Spillways, 762

Two-Phase Flow Characteristics of Stepped Spillways, 761

Bok, S. H.

see Chua, D. K. H., 232

see Chua, D. K. H., 271

Boll, J.

see Wang, G -T., 828

Boll, Jan

see Walter, M. Todd, 822

Bolton, James R.

Standardization of Methods for Fluence (UV Dose)
Determination in Bench-Scale UV Experiments, 467

Bolton, M. D.

see Au, S. K. A., 603

Bombardelli, Fabián A.

Hydraulic Design of Large-Diameter Pipes, 779

Bond, Marchia V.

see Hickey, John T., P.E., 1420

Bonfiglioli, Barbara

Internal Strain Measurements in Concrete Elements by Fiber Optic Sensors, 975

AUTHOR INDEX

Bonjour, Cyrill

see Meier, Werner, 533

Bonora, Virna

see Pascale, Giovanni, 1015

Booth, Amy M.

Sources of Fecal Pollution in Virginia's Blackwater River 507

Boothby, Thomas E.

The Bowers Program: Effects of Cross-Disciplinary Design Activities on Architectural Engineering Student Performance, 67

Bora, Padma K.

see Sharma, Binu, 651

Borenstein, Denis

see Frutos, Juan Diego. 233

Borg, Robert F., P.E. Rebuilding the World Trade Center, 1507

Borroum, Steve

see Kayhanian, Masoud, 558

Borsuk, Mark E.

Integrated Approach to Total Maximum Daily Load Development for Neuse River Estuary using Bayesian Probability Network Model (Neu-BERN), 1404

see Stow, Craig A., 1407

Borthwick, Alistair G. L.

see Ni, Jinren, 442

Bortolotti, Lionello

Strength of Concrete Subjected to Pullout Load, 1020

Bosch, Darrell J.

Hydrological and Fiscal Impacts of Residential Development: Virginia Case Study, 1390

Bosch, Sheila J.

Sustainability in Public Facilities: Analysis of Guidance Documents, 1037

Bose, Sujit K.

H₂ Energy Estimate of Boundary Controlled Vibrating Hybrid Structure Subject to Uncertain Forces. 50

Bosela, Paul A, ed.

Forensic Engineering, 1615

Bosu, S. Santhana

see Ravikumar, V., 892

Bouazza, Abdelmalek

see Bowders, John J. 599

Boukovalas, G.

see Loizos, A., 1335

Boukpeti, N.

see Mróz, Z., 25

Boulanger, Ross W.

High Overburden Stress Effects in Liquefaction Analyses, 683

Relating K., to Relative State Parameter Index, 650

see Wehling, Timothy M., 667

Bourgine, Bernard

see Guyonnet, Dominique, 451

Boutros, Medhat K.

Design of Retrofitting for Damaged Rectangular Hol-

Brouns

Bowders, John J.

Construction Quality Control for Asphalt Concrete Hydraulic Barriers, 599

Bowen, James D.

A CE-QUAL-W2 Model of Neuse Estuary for Total Maximum Daily Load Development, 1405

see Stow, Craig A., 1407

Bower, Kevin C.

see Hassan, Kazi Z. A., 559

Boyall, L.B.

Analysis and Prediction of Transverse Mixing Coefficients in Natural Channels, 706

see Wilson, C. A. M. E., 770

Boxoen, Thomas

Advances in Ritz Vector Identification, 1194

Bozorgnia, Yousef

Damage Spectra: Characteristics and Applications to Seismic Risk Reduction, 1214

Bramley, Mervyn E.

see Hall, Jim W., 1533

Branco, Fernando J. F. G.

Bond Geometry and Shear Strength of Steel Plates Bonded to Concrete on Heating, 1031

Brandenburg, Stefanie G.

see Bell, Lansford C., 952

Brandt, Christopher W.

Load-Duration Behavior of Wood-Plastic Composites,

Bravo-Espinosa, Miguel

Bedload Transport in Alluvial Channels, 773

Bray, Jonathan D.

see O'Sullivan, Catherine, 374

see Wartman, Joseph, 643

Brémond, Bernard

see Constans, Sophie, 1393

Brengola, Andrew F., P.E.

An Alternative Approach, 1573

Briaud, Jean-Louis

Shrink Test-Water Content Method for Shrink and

Brickman, Richard

see Moujaes, Samir F., P.E., 280

See Modjaca Danin

Brilingas, Algirdas see Jaselskis, Edward J., 1012

Brinkmann, Philip E.

see Kolluru, Venkat S., 278

Bröchner, Jan

Integrated Development of Facilities Design and Services, 1038

Brouns, Gert

Delaunay Triangulation Algorithms Useful for Multibeam Echosounding, 1267

Brouwer

2003 ASCE TRANSACTIONS

Brouwer, Greg

The Creeping Storm, 1569

Brouwer, R.

see Spaan, G. B. H., 888

Brown, David C.

Novel Method of Excavation, 223

Brown, Gene O., P.E.

Grand Finale, 1588

Brown, Glenn O., ed.

Henry P. G. Darcy and Other Pioneers in Hydraulics,

Brown, Jeff L.

Joining Forces, 1585

Ramping Up, 1590

Rebuilding the Winter Garden, 1547

Brown, Phillip P.

Sphere Drag and Settling Velocity Revisited, 469

Brownjohn, James Mark William

Assessment of Highway Bridge Upgrading by Dynamic Testing and Finite-Element Model Updating, 89

Bruce, Donald A., ed.

see Johnsen, Lawrence F., ed., 1618

Brühwiler, Eugen

see Adey, Bryan, 853

see Frangopol, Dan M., ed., 1623

Brun, Soren

see Rasdorf, William, P.E., 134

Bruneau, Michel

see Berman, Jeffrey, 1227

see Paquette, Jocelyn, 1153

see Vian, Darren, 1250

Brunella, Sandro

Hydraulics of Bottom Rack Intake, 693

Brunso, Torkild P., P.E.

Using Benchmarks and Metrics to Evaluate Project
Delivery of Environmental Restoration Programs.
211

Brutsaert, Wilfried

see Eng, Ken, 833

Buchak, Edward M.

see Kolluru, Venkat S., 278

Buckland, Peter G., P.E.

Increasing the Load Capacity of Suspension Bridges, 105

Bueno, Benedito de S.

Engineering Properties of Fiber Reinforced Cold Asphalt Mixes, 555

Bullock, Darcy

see Abbas, Montasir M., 1283

Bullock, G. N.

see Rafiq, M. Y., 142

Bunch, Barry

see Cerco, Carl, 480

Burby, Raymond J.

see Birkland, Thomas A., 1523

Burch, Scott, P.E.

see Chenettler, Jack, P.E., 1572

Burgess, Ian W.

see Huang, Zhaohui, 1190

see Huang, Zhaohui, 1191

Burgoyne, Chris

see Stratford, Tim, 191

Burke, Christopher

see Ling, Hoe I., 685

Burmeier, Harald see Birke, Volker, 1490

Burns, Tim

see Bezkorovainy, Paul, 1225

Burris, Mark W.

Application of Variable Tolls on Congested Toll Road, 1325

Busch, Robert D.

see Thomson, Bruce M., 500

Butler, D.

see Makropoulos, C. K., 1386

Butler, David

Self-Cleansing Sewer Design Based on Sediment Transport Principles, 721

Transport Principles, 7

Buzzi, Andrea see Koussis, Antonis D., 799

Byle, Michael J., ed.

see Johnsen, Lawrence F., ed., 1618

Byrd, Robert C.

see Kaiser, Mark J., 1460

Cahoon, Joel, P.E.

Flume for Teaching Spatially Varied Open-Channel Flow, 776

Cai, C. S., P.E.

see Nie, Jianguo, 1132

Cai, Chun S., P.E.

Understanding Capacity Rating of Bridges from Load Tests, 1515

Cai, Hubo

see Rasdorf, William, P.E., 134

Cai, Ximing

Integrated Hydrologic-Agronomic-Economic Model for River Basin Management, 1380

Caicedo, J. M.

see Dyke, S. J., 1167

Caires, Julie P.

Counterflow Method for Measurement of Henry's Law Constants, 578

Calado, Luis

see Mele, Elena, 1211

Caldas, Carlos H.

see Soibelman, Lucio, 251

Caldwell, Jack A.

see Zornberg, Jorge G., 620

Caliendo, Joseph A.

see Womack, Kevin C., 615

Camino, Juan F.

"Convexifying" Linear Matrix Inequality Methods for Integrating Structure and Control Design, 1179

Camo, Sante, P.E.

Probabilistic Strength Estimates and Reliability of Damaged Parallel Wire Cables, 106

Camp, Charles V.

Flexural Design of Reinforced Concrete Frames using a Genetic Algorithm, 1095

Campos, J. L.

see Mosquera-Corral, A., 540

Canepa, Stefano

Effect of Jet Air Content on Plunge Pool Scour, 730

Capart, H.

Treatment of Natural Geometry in Finite Volume River Flow Computations, 733

Carden, E. P.

see Fanning, P. J., 306

Caridi, D.

see Leist, M., 519

Carino, Nicholas J.

see Starnes, Monica A., 992

Carlson, Anders, P.E.

see McKinlay, Bruce, P.E., 1556

Carlson, Kenneth

see McQuarrie, James P., 490

Carr, Dennis L., P.E.

see Pisano, William C., P.E., 719

Carrara, M. D.

Stability of Periodically Unsteady Axisymmetric Jet, 346

Carraro, J. A. H.

Liquefaction Resistance of Clean and Nonplastic Silty Sands Based on Cone Penetration Resistance, 671

Carrier, W. David, III

Goodbye, Hazen; Hello, Kozeny-Carman, 680

Particle Size Distribution of Lunar Soil, 670

Carryer, Ed

see Lynch, Jerome P., 49

Carson, Sarah E.

Toxic Mold: Latest Construction Defect, 1075

Carter, J. P.

see Liu. M. D., 35

see Liu, M. D., 36

Carter, John P.

see Liu, Martin D., 31

Caruso, John F., P.E.

see Gsellmeier, Reinhard L., P.E., 1601

Casagrande, Michéle D. T.

see Consoli, Nilo C., 669

Casamitjana, Xavier

see Pérez-Losada, Joaquim, 768

Casas, Joan R.

Fiber Optic Sensors for Bridge Monitoring, 112

Casey, R. J.

see Leist, M., 519

Castelli, Marta

Numerical Study of Scale Effects on the Stiffness Modulus of Rock Masses. 28

Castrodale, Reid

see Hastak, Makarand, 102

Catbas, F. Necati

Nondestructive Evaluation of Tuned-Mass-Damper-Type Vibration Absorbers using Vibration Signatures, 1028

Causon, D. M.

see Qian, L., 764

Cavallaro, Dean

see Vokral, John, P.E., 1550

Cavalletti, Alessandra

Impact of Vertical, Turbulent, Planar, Negatively Buoyant Jet with Rigid Horizontal Bottom Boundary, 697

Cawley, P.

see Beard, M. D., 986

Cedolin, Luigi

see Cusatis, Gianluca, 435

see Cusatis, Gianluca, 436

Celik, Mehmet S.

see Armagan, Bulent, 527

Célleri, Rolando

see De Biévre, Bert, 871

Cen, Zhangzhi

see Xiang, Zhihai, 32

Cerco, Carl

Eutrophication and Pathogen Abatement in the San Juan Bay Estuary, 480

Cercone, Larry

see Pantelides, Chris P., 170

Čermák, Jan

see Michalowski, Radoslaw L., 590

Chaallal, Omar

Performance of Axially Loaded Short Rectangular Columns Strengthened with Carbon Fiber-Reinforced Polymer Wrapping, 179

Chacón, Emilio

see Olmo, Ignacio Fernández, 505

Chai, Y. H.

Geometry of Submerged Funicular Arches in Cartesian Coordinates, 1189

Quasi-Static Reversed Cyclic Response of Level and Stepped Cripple Walls, 1139

see Song, Shin-Tai, 103

Chaiprapat, Sumate

Modeling Nitrogen Transport in Duckweed Pond for Secondary Treatment of Swine Wastewater, 530

Chakma, A.

see Chen, Z., 452

see Huang, Y. F., 1472

Chakma

Chakma, Amit

see Li, Jian-Bing, 1473

Chamarthy, Ram

see Cho, Eung Ha, 1057

Chambers, Janice J.

Effect of Reduced Beam Section Frame Elements on Stiffness of Moment Frames, 1122

Chammas, R.

Characterization of Heterogeneous Soils using Surface Waves: Homogenization and Numerical Modeling, 17

Champlin, B. P.

see Hahn, G. D., 438

Chan, Albert P. C.

Partnering in Construction: Critical Study of Problems for Implementation, 954

Chan, Daniel W. M.

see Chan, Albert P. C., 954

Chan, Edwin H. W.

Cultural Considerations in International Construction Contracts, 239

Chan, I-Chi

Analysis of Water Waves Passing over a Submerged Rectangular Dike, 350

Chan, K. S., P.E.

see Krishnan, Rajan, P.E., 1596

Chan, S. L.

see Law, S. S., 344

Chan, Weng Tat

Optimal Fund-Allocation Analysis for Multidistrict Highway Agencies, 858

Chan, Y. L.

see Tang, S. L., 958

Chandra, Satish

Effect of Lane Width on Capacity under Mixed Traffic Conditions in India, 1301

Chang, Andrew Shing-Tao, P.E.

Engineering Information Classification System, 249

Chang, C. C.

Tuned Mass Dampers for Dual-Mode Buffeting Control of Bridges, 98

Chang, C. S.

Heterogeneous Strain and Bonded Granular Structure Change in Triaxial Specimen Studied by Computer Tomography, 421

Chang, Chih-Chen

see Zhou, Li, 1171

Chang, Ching-Yuan

see Wu, Chao-Hsiung, 487

Chang, E. E.

see Chuang, C. L., 1477

Chang, K. C.

see Lin, Y. Y., 1106

Chang, Kuang-An

see Lin, Chang, 409

see Mori, Nobuhito, 406

Chang, Moo Been

see Lee, How Ming, 537

Chang, Ni-Bin

see Yen, Hung-Kl, 1474

see Yen, Hung-Kl, 1475

Chang, Peter C.

Recent Research in Nondestructive Evaluation of Civil Infrastructures, 996

Chang, Shuenn-Yih

Accuracy of Time History Analysis of Impulses, 1120 Nonlinear Error Propagation Analysis for Explicit

Pseudodynamic Algorithm, 376

Chang, Stephanie E.

Evaluating Disaster Mitigations: Methodology for Urban Infrastructure Systems, 1540

Chang, Yu-Jung

Modeling Formation of Natural Organic Matter Fouling Layers on Ultrafiltration Membranes, 446

Changnon, Stanley A.

Impact of Spring 2000 Drought Forecasts on Midwestern Water Management, 1381

Chao, Xiaobo

Development and Application of Oil Spill Model for Singapore Coastal Waters, 746

Chaouki, Jamal

see Fall, Cheikh, 564

Chaparro, Carlos

see Reddy, Krishna R., 575

Chapra, Steven C.

see Westphal, Kirk S., 1396

Charles, Emmanuel

see Coppola, Emery, Jr., 838

Charles, Emmanuel G.

see Fischer, David, 497

Chatterjee, Aveek N.

Mathematical Modeling and Simulation of Dissolvable Hydrogels, 44

Chau, K. W.

Knowledge-Based System on Optimum Design of Liquid Retaining Structures with Genetic Algorithms, 1212

Chaurasia, Shri Ram

Direct Equations for Hydraulic Jump Elements in Rectangular Horizontal Channel, 891

Chavarie, Claude

see Fall, Cheikh, 564

Chebbo, Ghassan

see Tait, Simon J., 726

Chebli, H.

see Soize, C., 333

Cheeks, J. Richard

Multistep Dispute Resolution in Design and Construction Industry, 1066

Cheerarot, Raungrut

see Jaturapitakkul, Chai, 965

Chen, Ching-lin

see Kuo, Jeff, 535

Chen, Dar-Hao

Effectiveness of Preventative Maintenance Treatments using Fourteen SPS-3 Sites in Texas, 1050

Forensic Evaluation of Premature Failures of Texas Specific Pavement Study-1 Sections, 1043

Chen, Dong

see Thomas, H. Randolph, 227

see Thomas, H. Randolph, 939

Chen, G

Influence of Bond Slip on Crack Spacing in Numerical Modeling of Reinforced Concrete, 1234

Chen, Genda

see Lou, Menglin, 385

Chen, Guangxun

see Hu, Jingqing, 1508

Chen, Harn S.

see Nogami, Toyoaki, 388

Chen, Hong

Preliminary Evaluation of Microbially Mediated Precipitation of Cadmium, Chromium, and Nickel by Rhizosphere Consortium, 443

Chen, How-Ji

see Tang, Chao-Wei, 1160

Chen, J. F.

Shear Capacity of Fiber-Reinforced Polymer-Strengthened Reinforced Concrete Beams: Fiber Reinforced Polymer Rupture, 1144

Chen, Jack

Two-Dimensional Micromachined Flow Sensor Array for Fluid Mechanics Studies, 47

Chen, Jianzhi

see Lai, Xu, 283

Chen, Kai

see Li, Guo-Qiang, 1254

Chen. L.

Study of Applying Macroevolutionary Genetic Programming to Concrete Strength Estimation, 156

Chen, Liang-Chien

Generation of Digital Orthophotos from IKONOS Satellite Images, 1266

Chen, Oin

see Shi, Fengyan, 1441

Chen, S.

see Wang, G.-T., 828

Chen, Sheng-hong

Analysis of Arch Dams using Coupled Trial Load and Block Element Methods, 672

Chen, Shyi-Tien

Use of an Anaerobic Sludge Digestion Process to Treat Pentachlorophenol-(PCP-) Contaminated Soil, 572

Chen, Wai-Fah

see Teng, Ming-Hung, 166

Chen, Wen-Hsing

Sodium Inhibition of Thermophilic Methanogens, 502

Chen, Xi

see Chen, Xunhong, 831

Chen, Xingwei

Response of Velocity and Turbulence to Sudden Change of Bed Roughness in Open-Channel Flow, 695

Chen, Xinzhong

Aeroelastic Analysis of Bridges: Effects of Turbulence and Aerodynamic Nonlinearities, 380

Curve Veering of Eigenvalue Loci of Bridges with Aeroelastic Effects, 300

Efficacy of Tuned Mass Dampers for Bridge Flutter Control, 1210

Chen, Xunhong

Effects of Aquifer Anisotropy on the Migration of Infiltrated Stream Water to a Pumping Well, 831

Chen, Y.

Numerical Model for Wave Refraction-Diffraction near Pearl River Estuary, China, 1457

Chen, Yuha

Particle Image Velocimetry System with Self-Organized Feature Map Algorithm, 407

see Chwang, Allen T., 405

Chen, Yung-Hsiang

Dynamic Characteristics of Infinite and Finite Railways to Moving Loads, 390

Chen. 7

Hybrid Fuzzy-Stochastic Modeling Approach for Assessing Environmental Risks at Contaminated Groundwater Systems, 452

Integrated Subsurface Modeling and Risk Assessment of Petroleum-Contaminated Sites in Western Canada, 544

Chen, Z. H.

Numerical Simulation on Damage and Failure of Brittle Rocks under Different Confining Pressures, 37

Chenettler, Jack, P.E.

Unleashing the Flow, 1572

Cheng, Fu-Ping

see Kodur, V. K. R., 1111

Cheng, G., P.E.

see Wilmot, C. G., 229

Cheng, H. D.

Real-Time Image Thresholding Based on Sample Space Reduction and Interpolation Approach, 153

Cheng, J. J. R.

see Yam, Michael C. H., 1084

Cheng, J. J. Roger

see Deniaud, Christophe, 189

see Kuzik, Marc D., 159

Cheng, Jiayang

see Chaiprapat, Sumate, 530

Cheng, Jinxing

see Liu, David, 148

Cheng, Min-Yuan

Object-Oriented Evolutionary Fuzzy Neural Inference System for Construction Management, 250

Cheng

Chimenos, Josep M.

see Fernádez, Ana I., 475

Chin, J. W.

see Karbhari, V. M., 182

Chin, K. S.

Construction in Hong Kong: Success Factors for ISO9000 Implementation, 265

2003 ASCE TRANSACTIONS

Chini, Abdol R.

ISO 9000 and the U.S. Construction Industry, 946

see Van Dessel, Steven, 57

Chinowsky, Paul S.

Virtual Teams: Guide to Successful Implementation,

see Molenaar, Keith R.@rE, 1611

Chintanapakdee, Chatpan

see Chopra, Anil K., 1128

Chinthamreddy, Supraja

see Reddy, Krishna R., 604

Chitale, S. V.

Modeling for Width Adjustment in Alluvial Rivers, 735

Role of Resistance Coefficient in Seasonal Adjustments in Alluvial Rivers, 787

Chiu, Abraham C. F.

see Ng, Charles W. W., 631

Cho, Eung Ha

Corrosion Condition Evaluation at Muddy Creek Bridge, 1057

Cho, Jae Yeol

see Oh, Byung Hwan, 1135

see Oh, Byung Hwan, 1200

Choi, Christopher Y.

see Colaizzi, Paul D., 862

see Colaizzi, Paul D., 863

see Enriquez, Carlos, 543

Choi, Jin-Yong

Real-Time Watershed Delineation System Using

Web-GIS, 146

Choi, K.

Moment Magnifier Method for Long-Term Behavior of Flat Plates Subjected to In-Plane Compression, 1093

Choi, Keechoo

see He, Rong, 1357

Choi, T. W.

see Chin, K. S., 265

Choi, Yeol

Time-Dependent Deformation of Pultruded Fiber-Reinforced Polymer Composite Columns, 195

Choi, Ying-Kit, P.E.

Cold Weather Placement of RCC, 974

Choo, C. C.

Influence of Long-Term Loads on Concrete Column Strength, 1500

see Alagusundaramoorthy, P., 188

Choo, Y. S.

see Fwa, T. F., 1333

Optimal Project Organizational Structure for Construction Management, 206

Reengineering of Construction Management Process, 210

Cheng, Nian-Sheng

Application of Ergun Equation to Computation of Critical Shear Velocity Subject to Seepage, 889

Fluctuations of Turbulent Bed Shear Stress, 298

Cheng, N.-S.

see Sumer, B. Mutlu, 755

Cheng, Yousheng

see Melhem, Hani G., 127 see Melhem, Hani G., 132

Cheng, Zhen-Qiang

see Reddy, J. N., 381

Cheon, Jeong-Yeon

see Lee, In-Mo, 677

Cheong, Hee-Kiat see Goh, Chia-Chia, 1023

Cheu, Ruey Long

Estimating Total Distance for Hauling Import and Export Containers, 1318

Cheung, Kwok Fai

see Phadke, Amal C., 364

see Smith, David A., 745

see Wei, Yong, 1434

Chew, Ek Peng

see Cheu, Ruey Long, 1318

Chew, S. H.

see Karunaratne, G. P., 659

Chiang, P. C.

see Chuang, C. L., 1477

Chicoine, Thierry

Long-Term Behavior and Strength of Partially Encased Composite Columns Made with Built-Up Steel Shapes, 1099

Chidiac, S. E.

Correlation of Rheological Properties to Durability and Strength of Hardened Concrete, 1007

Chien, Chao-Yu

see Tay, Joo-Hwa, 1030

Chien, Steven I-Jy

Dynamic Travel Time Prediction with Real-Time and Historic Data, 1356

Chien, T. W.

Kinetic Study on Absorption of SO₂ and NO with Acidic NaClO₂ Solutions using the Spraying Column, 557

Chiew, Yee-Meng

see Chen, Xingwei, 695

Chilès, Jean-Paul

see Guyonnet, Dominique, 451

Chilstrom, Joseph E., P.E.

see Stroh, Steven L., P.E., 1581

Chilton, James Y., P.E.

see Fixler, Richard S., P.E., 1570

see Liu, Yurong, 1321

Chopra, Anil K.

Statistics of Single-Degree-of-Freedom Estimate of Displacement for Pushover Analysis of Buildings, 1128

see Lin, Wen-Hsiung, 348

Chou, Hui-Yu

see Wang, Ming-Teh. 945

Chou, Yi-Ju

see Wu, Fu-Chun, 704

Chow, W. F.

see Chow, Y. K., 681

Chow, Y. K.

Low Strain Integrity Testing of Piles: Three-Dimensional Effects, 681

see Leung, C. F., 583

Chrisohoides, Antonis

Coherent Structures in Flat-Bed Abutment Flow: Computational Fluid Dynamics Simulations and Experiments, 710

Chu, Allyson K.

Data Requirements for Load Estimation in Well-Mixed Tidal Channels, 534

see Sanders. Brett F., 717

Chu, Chia R.

Wind and Stream Flow Induced Reaeration, 574

Chu, H.

see Chien, T. W., 557

Chu, V. H.

see Zhang, J.-B., 408

Chu, W

Amphoteric Effect of Humic Acids in Surfactant-Aided Photolysis of Polychlorobiphenyls, 528

Remediation of Contaminated Soils by Surfactant-Aided Soil Washing, 1463

Chu, W., P.E.

Effects of Humic Materials on Photodegradation of Chlorinated Aromatic Dye in Surfactant Solution, 501

Chua, D. K. H.

Constraint-Based Planning with Integrated Production Scheduler over Internet, 232

Impacts of Obstacles in East Asian Cross-Border Construction, 212

Process-Parameter-Interface Model for Design Management, 271

Chua, Lloyd H. C.

see Sumer, B. Mutlu, 755

Chuang, C. L.

Adsorption–Desorption Rate of Nonpolar Volatile Organic Compounds onto Activated Carbon Exemplified by C₆H₆ and CCI₄, 1477

Chuhan, Zhang

see Feng, Jin, 658

Chui, Peng-Cheong

see Tay, Joo-Hwa, 476

Chun, Yoon-moon

see Naik, Tarun R., 1008

Chung, Esther E.

see Başağaoğlu, Hakan, 510

Churchley, John

see Doyle, James D., 491

Chwang, Allen T.

Field Measurement of Ship Waves in Victoria Harbor, 405

see Chen, Yuhai, 407

Chwirka, Joseph D.

see Thomson, Bruce M., 509

Cienfuegos, Rodrigo

see Tejeda, Ignacio, 802

Civian, Scott A.

Behavior of Shear Studs Subjected to Fully Reversed Cyclic Loading, 1229

Civjan, Scott A., P.E.

see Jones, Sean C., 192

Clark, Stephen

Traffic Prediction using Multivariate Nonparametric Regression, 1302

Clarke, Richard F.

Early Planning and Decisions on the Southeast Corridor Project, 929

Clarke, Thomas R.

see Colaizzi, Paul D., 862

see Colaizzi, Paul D., 863

Classen, John J.

see Chaiprapat, Sumate, 530

Cleary, Douglas B., P.E.

Course in Professional Practice Issues, 1063

Clemmens, A. J.

Calibration of Submerged Radial Gates, 763

Field Verification of Two-Dimensional Surface Irrigation Model, 902

see Bautista, E., 873

see Strelkoff, Theodor S., 901

Cleveland, Christopher T.

Standardized Membrane Pore Size Characterization by Polyethylene Glycol Rejection, 9

Coates, Andrew C., P.E.

Keeping It Rolling, 1583

Cochran, K. Bergeron

see Cox, J. V., 175

see Malvar, L. J., 174

Cohen, Harry

Predicting Truck Load Spectra under Weight Limit Changes and its Application to Steel Bridge Fatigue Assessment, 107

Coifman, Benjamin

Improved Vehicle Reidentification and Travel Time Measurement on Congested Freeways, 1341

Cojocaru, Eugenia C.

Concentrations of Pressure between an Elastically Supported Beam and a Moving Timoshenko-Beam, 399

Cokca, Erdal

see Yilmaz, Olcay, 485

Colaizzi, Paul D.

Estimating Soil Moisture under Low Frequency Surface Irrigation using Crop Water Stress Index, 862 Water Stress Detection under High Frequency Sprinkler Irrigation with Water Deficit Index, 863

Coleman, Fred, III

see Moon, Young J., 1313

Coleman, Stephen E.

Closed-Conduit Bed-Form Initiation and Development.

Fluvial Entrainment of Protruding Fractured Rock, 783

Coles, Stuart

Estimating Uncertainty in the Extreme Value Analysis of Data Generated by a Hurricane Simulation Model.

Collins, Alexander, P.E.

Worthy Successor, 1593

Collins, Karen

see Theis, Thomas L., 1481

Collotta, Tiziano, P.E.

Landslide Hazard Evaluation: The Landslide Hazard Curves, 628

Colombo, Ing. S.

Assessing Damage of Reinforced Concrete Beam using "b-value" Analysis of Acoustic Emission Signals,

Colwell, Donald A. F.

Evaluation of High-Density Polyethylene Pipe Installed using Horizontal Directional Drilling, 203

Côme, Bernard

see Guyonnet, Dominique, 451

Conrad, David

see Birkland Thomas A 1523

Consoli, Nilo C.

Plate Load Test on Fiber-Reinforced Soil, 669

Consoli, Nilo Cesar

Behavior of Plate Load Tests on Soil Layers Improved with Cement and Fiber, 587

Constales, Denis

see Brouns, Gert, 1267

Constans, Sophie

Simulation and Control of Chlorine Levels in Water Distribution Networks, 1393

Constantinou, Michael C.

see Roussis, Panayiotis C., 91

Conte. J. P.

Consistent Finite-Element Response Sensitivity Analysis, 430

Cooke, Andrew

see Rittmann, Bruce E., 529

Coon, Giles C.

see Jeng, Raymond I., P.E., 860

Behavior of Hydrocarbon Reservoir Sands and Sandstones, 676

Copeland, Ronald R.

see Shields, F. Douglas, Jr., 754

Coppola, Emery, Jr.

Artificial Neural Network Approach for Predicting Transient Water Levels in a Multilayered Groundwater System under Variable State, Pumping, and Climate Conditions, 838

Cordeiro, J. M. Lopes

see Cruz, Paulo J. S., 1516

Cording, Edward J.

see Hashash, Youssef M. A., 626

Cornell, C. Allin

Probabilistic Basis for 2000 SAC Federal Emergency Management Agency Steel Moment Frame Guidelines. 6

Corotis, Ross B.

see Dougherty, Anne M., 1208

Cortner, Hanna

see Birkland, Thomas A., 1523

Cosentino, C.

see Benedetto, A., 1293

Cosentino, Paul J., P.E.

Analysis of Fiber Optic Traffic Sensors in Flexible Pavements, 1349

see Chammas, R., 17

Cotter, T. Jeffrey

see Thomson, Bruce M., 509

Coulter, Richard L.

see Eng. Ken, 833

Coumoulos, H.

see Soga, K., 595

Coussy, Olivier

see Steffens, Alexander, 289

Cowen, Edwin A.

Particle Image Velocimetry Measurements within a Laboratory-Generated Swash Zone, 403

Laboratory Measurements of Void Fraction and Turbulence in the Bore Region of Surf Zone Waves, 411

see Mori, Nobuhito, 1445

Bond between Carbon Fiber Reinforced Polymer Bars and Concrete. II: Computational Modeling, 175

see Malvar, L. J., 174

Cox. Robert F.

Management's Perception of Key Performance Indicators for Construction, 213

Crabtree, Bob

see Ashley, Richard, 720

Criminisi, A.

Water Level Measurement Locations for Coastal Aquifer Management, 1384

Cristina, Chad M.

"First Flush," Power Law and Particle Separation Diagrams for Urban Storm-Water Suspended Particuates, 478

Kinematic Wave Model of Urban Pavement Rainfall-Runoff Subject to Traffic Loadings, 518

Crittenden, J. C.

see Yang, J., 513

Crittenden, John C.

see Li, Hebi, 524

Crocetti, Roberto

Fatigue Performance of Modular Bridge Expansion Joints, 1053

Crohn, David M.

Modeling Temperature Effects on Decomposition, 576

Croley, Thomas E., II

Weighted-Climate Parametric Hydrologist Forecasting, 817

Crossley, Amanda J.

Local Time Stepping for Modeling Open Channel Flows, 741

Crosswell, Scott B.

see Robinson, Sandra L., 470

Crowe, Joanna C.

see Wilcock, Peter R., 705

Crum, Michael R.

see Suzuki, Yoshinori, 1308

Cruz, Paulo J. S.

Audacious and Elegant 19th Century Porto Bridges, 1516

see Casas, Joan R., 112

Cui, Li-Jie

Optimizing Urban Water Supply Headworks using Probabilistic Search Methods, 1414

Culp. Gordon

Improving the Effectiveness of the Engineering and Planning Functions of a Major Utility, 914

Curtis, George D.

see Wei, Yong, 1434

Cusatis, Gianluca

Confinement-Shear Lattice Model for Concrete Damage in Tension and Compression: I. Theory, 435

Confinement-Shear Lattice Model for Concrete Damage in Tension and Compression: II: Computation and Validation, 436

Cutright, Teresa J.

see Chen, Hong, 443

Cyganiewicz, John

see Fell, Robin, 608

Czor, L. J.

see Jackson, N. M., P.E., 967

Da Re, Gregory

Triaxial Testing of Frozen Sand: Equipment and Example Results, 122

da Silva, , Wander R.

see Bueno, Benedito de S., 555

D'Agostino, Joseph A., P.E.

see Gruhn, Arthur W., P.E., 1587

Dai, Hsi-heng

see Hsieh, Ping-cheng, 355

Dallimore, Chris J.

Coupling an Underflow Model to a Three-Dimensional Hydrodynamic Model, 769

Dalrymple, Robert A.

see Shi, Fengyan, 1441

Daly, Steven F.

see Lever, James H., 117

Damgaard, Jesper

Sand Transport on Steeply Sloping Plane and Rippled Beds, 766

Damiani, Thomas M.

see Barbero, Ever J., 157

Daniels, John L., P.E.

Durability of Boston Blue Clay in Waste Containment Applications, 977

Danos, Savas

see Roy, Steven P., 1562

Das, Mita

Regional Analysis of Nonmethane Volatile Organic Compounds in the Lower Troposphere of the Southeast United States, 570

Das, Prabir K.

see Hashash, Youssef M. A., 626

Dasgupta, Gautam

Integration within Polygonal Finite Elements, 39

Interpolants within Convex Polygons: Wachspress' Shape Functions, 38

Dash, B. K.

Effect of Compressive Load on Uplift Capacity of Model Piles, 673

Dasi, L. P.

see Webster, D. R., 404

Datta, Manoj

Geotechnical Study for Hydraulic Barrier System at Tailings Pond, 1479

Datta, Nirmal K.

see Koehn, Enno "Ed", P.E., 261

Datta, P. K.

see Sahu, S. K., 416

Davalos, Julio F.

see Mirmiran, Amir, 1073

David, Vasanthakalyani

see Rajasekaran, S., 277

Davidow, Steven A.

Development of Design Values for Wood-Plastic Composite Materials, 1010

Davidson, M. J.

see Wang, H. J., 729

Davidson, Rachel A.

Electric Power Distribution System Performance in Carolina Hurricanes, 1522

Projecting Building Inventory Changes and the Effect on Hurricane Risk, 1379

Quantitative Model to Forecast Changes in Hurricane Vulnerability of Regional Building Inventory, 846

Davie, Steven R.

see Wool, Tim A., 1406

Davies

2003 ASCE TRANSACTIONS

Davies, Peter A.

see Cavalletti, Alessandra, 697

Davis-Blake, Alison

see Gibson, G. Edward, Jr., 959

Dawdy, David R.

see Ogden, Fred L., P.E., 806

Dawood, Anwar S.

see Visser, Stephen J., 52

Day, Robert

see Hu, Xiao Dong, 1034

De Angelis, Maurizio

see Luş, Hilmi, 336

see Lus, Hilmi, 337

De Biévre, Bert

Night Irrigation Reduction for Water Saving in Medium-Sized Systems, 871

de Blois, C. J.

Robustness of River Basin Water Quality Models,

de Graaff, B. J. A.

see Spaan, G. B. H., 888

de Holanda, A. S.

Postbuckling Analysis of Plates Resting on a Tensionless Elastic Foundation, 332

de Kok, J. L.

see de Blois, C. J., 1398

de la Garza, Jesús

see Lucko, Gunnar, 1499

de la Garza, Jesús M. see Kim, Kyunghwan, 255

de Lima, Dario C.

see Bueno, Benedito de S., 555

De Lorenzis, Laura

Comparative Study of Models on Continement of Concrete Cylinders with Fiber-Reinforced Polymer Composites, 181

De Luca, A., P.E.

see Palmeri, A., P.E., 362

De Luca, Antonello

see Mele, Elena, 1211

de Mendonça, A. A.

see Galvão, T. C. de Brito, 554

de Oliveira, Marcelo G. Simas

Determining Traffic Stream Impacts of Radar Detectors using Microscopic Simulation, 1284

De Sutter, Renaat

Validation of Existing Bed Load Transport Formulas using In-Sewer Sediment, 727

De Troch, François P.

see Pauwels, Valentijn R. N., 869

de Vries, Tonny T.

see Anwar, Arif A., 861

de Waal, J. C. M.

see van der Molen, W., 1429

De Wulf, Alain

see Brouns, Gert, 1267

DeBarry, Paul, ed.

see Bizier, Paul, ed., 1648

Deierlein, Gregory G.

see Mehanny, Sameh S. F., 7

Deitz, D. H., P.E.

Physical Properties of Glass Fiber-Reinforced Polymer Rebars in Compression, 196

Dekelbab, Wassem

see Cohen, Harry, 107

Dekker, M. A.

Experimental and Numerical Investigation of Cutter Head Dredging Flows, 1450

del Oliveira, M. C.

see Camino, Juan F., 1179

Delahay, James M.

see Mehta, Kishor C., 1619

Delatte, Norbert J., ed.

see Bosela, Paul A, ed., 1615

Deleur, Paul

see Lin, Fred, 1329

Demirer, G. N.

see Sen, S., 514

Demissie, Misganaw

see Markus, Momcilo, 474

Demitz, J. R., P.E.

Deflection Requirements for Bridges Constructed with Advanced Composite Materials, 79

deMonsabert, Sharon

Comparative Evaluation of Analytical and Intuitive Decision-Making, 943

den Burger, M.

see Dekker, M. A., 1450

Den, Walter

Biotrickling Filtration for Control of Volatile Organic Compounds from Microelectronics Industry, 516

Deng, Yousheng

see Lai, Yuanming, 124

Deng, Z. M.

see Zeng, S. X., 951

Deng, Z. Q.

see Singh, V. P., 808

Deng, Zongcai

Behavior of Concrete Driven by Uniaxially Embedded Shape Memory Alloy Actuators, 360

Denham, Miles E., Jr.

see Looney, Brian B., 539

Deniaud, Christophe

Reinforced Concrete T-Beams Strengthened in Shear with Fiber-Reinforced Polymer Sheets, 189

Deniz, Rasim

see Denli, H. Hakan, 1270

AUTHOR INDEX

Doscher

Denii, H. Hakan

Global Congruency Test Methods for GPS Networks, 1270

Dennis, Charlene K., P.E.

see Khoury, Oscar A., P.E., 1551

Depczuk, D.

Characterizing Debris Clouds Created in Oblique Orbital Debris Particle Impact, 56

Der Kiureghian, Armen

see Song, Junho, 351

Derickson, John P., P.E.

see Ramey, George E., 1493

Derome, Dominique

Modeling of Moisture Behavior of Wood Planks in Nonvented Flat Roofs, 60

Desai, Chandra S.

Disturbed State Model for Porous Saturated Materials, 24

see Liu, Martin D., 31

DeSimone, Ed

see Saunders, Herb, P.E., 935

DesRoches, Reginald

Full-Scale Test of Seismic Cable Restrainer Retrofits for Simply Supported Bridges, 92

Dewaikar, D. M.

Computation of Bearing Capacity Factor N,— Terzaghi's Mechanism, 23

Dey, P.

see Sheikh, A. H., 415

Dey, Prasanta Kumar

Analytic Hierarchy Process Analyzes Risk of Operating Cross-Country Petroleum Pipelines in India, 1543

Dey, Subhasish

Free Overfall in Inverted Semicircular Channels, 739

Hydraulics of Submerged Jet Subject to Change in Cohesive Bed Geometry, 696

Incipient Motion of Bivalve Shells on Sand Beds under Flowing Water, 309

Overfall in U-Shaped Channels, 324

Dezi, Luigino

Local Effects Induced by Longitudinal Forces in Composite Girders, 100

Dhandapani, S.

see Rajasekaran, S., 277

Dhonde, H. B.

see Phatak, D. R., 1239

di Cervia, Arturo Ressi

A Better Barrier, 1575

Di Leo, Antonio

see Pascale, Giovanni, 1015

Di Nicola, Mario

see Fox. Patrick J., 668

Di Paola, Mario see Spanos, Pol D., 287 di Scalea, Francesco Lanza

Stress Measurement and Defect Detection in Steel Strands by Guided Stress Waves, 987

Di, Yang

see Zhaowei, Sun. 42

Dias, W. P. S.

Condition Assessment of a Deteriorated Cement Works, 1055

Dickerman, David C.

see Barlow, Paul M., 1383

Dickson, Kevin E.

see Gibson, G. Edward, Jr., 959

Dicleli, Murat

see Roussis, Panayiotis C., 91

Dikmen, Irem

Strategic Perspective of Turkish Construction Companies, 942

Dilger, Walter

Stability of Slender Webs of Prestressed Concrete Box-Girder Bridges, 86

Dimou, C. K.

Genetic Algorithms in Competitive Environments, 141

Ding, Hongvan

Estimating Soil Liquefaction in Ice-Induced Vibration of Bucket Foundation, 120

Ding, Yonglian

see Rakha, Hesham, P.E., 1286

Dinkels, Jerrold, P.E.

Restoring PATH, 1577

Diplas, Panayiotis

see Almedeij, Jaber H., 785

Dirickson, Della, ed.

see Haimes, Yacov Y., ed., 1636

Dobry, Ricardo

Single Piles in Lateral Spreads: Field Bending Moment Evaluation, 662

see Abdoun, Tarek, 661

see Sharp, Michael K., 684

see Sharp, Michael K., 06-

Dolf, Timothy J., P.E.

see Brown, Gene O., P.E., 1588

Domer, Bernd

Combining Dynamic Relaxation Method with Artificial Neural Networks to Enhance Simulation of Tensegrity Structures, 1149

A Study of Two Stochastic Search Methods for Structural Control, 140

see Fest, Etienne, 1134

Dong, Yue Xing

see Soh, Chee Kiong, 1005

Doppalapudi, Rajesh B.

Electrochemical Reduction of 2,4-Dinitrotoluene in a Continuous Flow Laboratory Scale Reactor, 465

Dortch, Mark

see Cerco, Carl. 480

Doscher, C.

see Aberle, J., 698

Dougherty

2003 ASCE TRANSACTIONS

Dougherty, Anne M.

Design Wind Speed Prediction, 1208

Dovle, James D.

Chemical Control of Struvite Precipitation, 491

Doyle, Martin W.

see Shields, F. Douglas, Jr., 754

Doytsher, Yerach

see Guienko, Guennadi, 1281

Draper, Andrew J.

Economic-Engineering Optimization for California Water Management, 1395

Dreger, Douglas

see Baise, Laurie G., 619

Drescher, A.

see Mróz, Z., 25

Drew, D. S.

see Fu. W. K., 241

Driller, Michael W. see Wehling, Timothy M., 667

Druss, David L.

see Hashash, Youssef M. A., 626

. .. .

Du, Lianxiang see Trejo, David, 1019

Duan I.

see King, W. S., 109

Dubé, Jean-François

see Le Bellégo, Caroline, 321

Dubois, Didier

see Guyonnet, Dominique, 451

Ducoste, Joel J.

see Chaiprapat, Sumate, 530

Duennbier, Uwe

see Verstraeten, Ingrid M., 1489

Duerr, David, P.E.

Beam Web Strength under Pairs of Concentrated Compression Loads, 1495

Dukes, M. D.

Interactive Effects of Controlled Drainage and Riparian Buffers on Shallow Groundwater Quality, 868

Dulin, Betsy Ennis, P.E.

Sharpening the Focus: Legal Context of Engineering Ethics, 1070

Duncan, J. Michael

see Esterhuizen, Jacob J. B., 10

see Mokwa, Robert L., 656

Durán, Mario

see Tejeda, Ignacio, 802

Durango-Cohen, Pablo L.

see Guillaumot, Vincent M., 854

Durrans, S. R.

Joint Seasonal/Annual Flood Frequency Analysis, 818

Durukal, Eser

see Roussis, Panayiotis C., 91

Dusenberry, Donlad O., P.E.

see Mlakar, Paul E., P.E., 1549

see Mlakar, Paul E., P.E., 1629

Dux. Peter

see Hu, Xiao Dong, 1034

Dyke, S. J.

Phase I Benchmark Control Problem for Seismic Response of Cable-Stayed Bridges, 1167

Dymond, Randy L.

see Bosch, Darrell J., 1390

Ealy, Carl

see Iskander, Magued, P.E., 689

Earls, C. J.

see Greco, N., 1241

see Thomas, S. J., 1240

Easa, S. M.

see Hassan, Y., 1331

Easa, Said M.

Distributing Superelevation to Maximize Highway

Design Consistency, 1298

Estimating Earthwork Volumes of Curved Roadways: Simulation Model, 1258

Eason, Thomas

see Besterfield, Glen, 94

Easson, William J.

see Walker, Sharon A., 1451

East, E. William

see Soibelman, Lucio, 251

Easterling, W. Samuel, P.E.

see Rex, Clinton O., P.E., 1162

Ebeling, Robert M.

see Gómez, Jesús E., 674

Ebersole, Bruce A.

see Wang, Ping, 1432

Ecke, Holger

Carbonation of Municipal Solid Waste Incineration Fly Ash and the Impact on Metal Mobility, 493

Economopoulos, Alexander P.

see Economopoulou, Maria A., 462

Economopoulou, Alexia A.

see Economopoulou, Maria A., 462

Economopoulou, Maria A.

Sensitivity Analysis and Comparative Performance of Outfalls with Single Buoyant Plumes, 462

Edlund, Bo

see Crocetti, Roberto, 1053

Edum-Fotwe, Francis T.

Designing Facilities Management Needs into Infrastructure Projects: Case from a Major Hospital, 1041

Edwards, Curties L., ed.

Atico, Peru Mw 8.4 Earthquake of June 23, 2001, 1608

Edwards, Marc

see McNeill, Laurie S., 856

Egbu, C.

see Edum-Fotwe, Francis T., 1041

AUTHOR INDEX

Espiell

Egger, Peter

see Chen, Sheng-hong, 672

Ehasz, Joseph L., P.E.

see Reed, Gerard E., III, P.E., 1558

Eheart, J. Wayland

see Suen, Jian-Ping, 1425

Eidinger, John, P.E.

see Yashinsky, Mark, P.E., 1555

Eiffe, M. A.

see Durrans, S. R., 818

Einstein, Herbert H.

see To, Albert C., 646

El Maaddawy, Tamer A.

Effectiveness of Impresssed Current Technique to Simulate Corrosion of Steel Reinforcement in Concrete,

Elazouni, Ashraf M.

Footbridge: Project to Implement Management Functions at AASTMT, 1062

Elchalakani, Mohamed

Tests of Cold-Formed Circular Tubular Braces under Cyclic Axial Loading, 1133

El-Dakhakhni, Wael W.

Three-Strut Model for Concrete Masonry-Infilled Steel Frames, 1103

Eldho, T. I.

see Capart, H., 733

Eldin, Neil

Pilot Study of Quality Function Deployment in Construction Projects, 234

Elefteriadou, Lilv

see Fang, Fang Clara, 1362

Elena-Ortega, Rosa

see Fall, Cheikh, 564

Elgaaly, Mohamed

see El-Dakhakhni, Wael W., 1103

Elgamal, Ahmed

see Yang, Zhaohui, 688

El-Ghandour, Abdel Wahab

Punching Shear Behavior of Fiber Reinforced Polymers Reinforced Concrete Flat Slabs: Experimental Study, 184

Ellingwood, Bruce R.

Toward Load and Resistance Factor Design for Fiber-Reinforced Polymer Composite Structures, 1127

Elliott, Mary E.

Inspection of Luling Bridge Cable Stays: Case Study, 224

Elliott, Ronald L.

see Itenfisu, Daniel, 906

El-Misalami, Tarek

see Jaselskis, Edward J., 274

El-Rabbany, Ahmed

Effect of Temporal Physical Correlation on Accuracy Estimation in GPS Relative Positioning, 1259 Elrod, Jason C.

see Huang, Yue-wern, 1488

El-Sadek, Alaa

Comparative Study of Two Nitrogen Models, 864

Elseifi, Mostafa A.

Quantitative Effect of Elastomeric Modification on Binder Performance at Intermediate and High Temperatures, 963

El-Tawil, Sherif, P.E.

see Jin, Jun, 342

Elwi, Alaa E.

see Kuzik, Marc D., 159

Elzein, Abbas

Contaminant Transport in Fissured Soils by Three-Dimensional Boundary Elements, 19

Multiple-Porosity Model for the Transport of Reactive Contaminants in Fissured Soils with Nonequilibrium Partitioning, 30

Eng, Ken

Vertical Velocity Variance in the Mixed Layer from Radar Wind Profilers, 833

Engel, Bernard A.

see Choi, Jin-Yong, 146

Engel, Jonathan

see Chen, Jack, 47

Enriquez, Carlos

Bacteriophages MS2 and PRD1 in Turfgrass by Subsurface Drip Irrigation, 543

Erdener, Eren

Linking Programming and Design with Facilities Management, 1036

Erdik, Mustafa

see Roussis, Panayiotis C., 91

Ergueta, Edgar

see Coifman, Benjamin, 1341

Ergun, Arif S.

Capacitive Micromachined Ultrasonic Transducers: Theory and Technology, 46

Erki, M. A.

see Bizindavyi, L., 171

Ernst, Helmut

see To, Albert C., 646

Ertekin, Oguz

see Nassif, Hani H., P.E., 83

Esaki, Tetsuro

see Xie, Mowen, 687

Esnard, Ann-Margaret

Beyond Semantics and the Immediate Postdisaster Period: Community Quality of Life as an Overarching Theme for Sustaining Collective Action, 1537

Español, L.

see Muñoz-Perez, Juan J., 1436

Espiell, Ferran

see Fernádez, Ana I., 475

Esposito

2003 ASCE TRANSACTIONS

Esposito, Giovanni

Four-Substrate Design Model for Single Sludge Predenitrification System, 488

Essa, Hesham S.

Behavior of Roof Deck Diaphragms under Quasistatic Cyclic Loading, 1248

Esser, Bradley K.

see Love, Adam H., 522

Esterhuizen, Jacob J. B.

Constitutive Behavior of Geosynthetic Interfaces, 10

Estes, Allen C

Updating Bridge Reliability Based on Bridge Management Systems Visual Inspection Results, 113

Eusuff, Muzaffar M.

Optimization of Water Distribution Network Design using the Shuffled Frog Leaping Algorithm, 1400

Evans, R. O., P.E.

see Dukes, M. D., 868

Evans, W. Alan B.

see Walker, Sharon A., 1451

Ewing, Lesley, ed.

Urban Beaches: Balancing Public Rights and Private Development, 1646

Ewing, Lesley C.

see Flick, Reinhard E., 1444

Ezeldin, A. S.

see Meegoda, Jay N., 1467

Fabbricino, Massimiliano

see Esposito, Giovanni. 488

Faber, Michael H., ed.

see Frangopol, Dan M., ed., 1623

Faci, J. M.

see Sourell, H., 900

Faella, Ciro

Shear Connection Nonlinearity and Deflections of Steel-Concrete Composite Beams: A Simplified Method, 1085

Fahev, Martin

see Sharma, Shambhu S., 636

see Sharma, Shambhu S., 637

Failla, Giuseppe

see Spanos, Pol D., 287

Fairey, Julian L.

Total and Volatile Polyaromatic Hydrocarbon Losses during Aerobic Slurry Phase Biotreatment, 1482

Fall, Cheikh

Multivariate Study on Phenanthrene Sorption in Soils,

Fan, Chi-Yuan

see Sample, David J., 1385

Fan, Chi-Yuan, P.E.

Sewer-Sediment Control: Overview of an Environmental Protection Agency Wet-Weather Flow Research Program, 718

Fan, Hongming

see Ren, Hongze, 70

Fan, Lichu

see Li, Jianzhong, 93

Fan, Zhifang

see Chen, Jack, 47

Fang, Fang Clara

Using Fuzzy Clustering of User Perception to Define Levels of Service at Signalized Intersections, 1362

Fang, Hsai-Yang

see Meegoda, Jay N., 1467

Fang, Ping

see Wong, W. G., 1027

Fanning, P. J.

Damage Detection Based on Single-Input-Single-Output Measurements, 306

Fargier, Hélène

see Guyonnet, Dominique, 451

Farina, Amy A.

see Van Dessel, Steven, 1232

Farnkhopf, Stephanie

see Talbert, Matthew, 1078 Farrell-Poe, K. L.

see Zerihun, D., 878

Farzaneh, Orang

Three-Dimensional Analysis of Nonhomogeneous Slopes, 591

Fatica, Giulio

Moment Equation Analysis of Base-Isolated Buildings Subjected to Support Motion, 294

Faust, Thorsten

see Steinberg, Eric, 1237

Fazio, Paul

see Derome, Dominique, 60

Fedder, Gary K.

see Xie, Huikai, 45

Fedele, Juan J.

see Coleman, Stephen E., 791

Federicks, Tycho

see Abudayyeh, Osama, P.E., 214

Federico, F.

Scour Vulnerability of River Bridge Piers, 663

Fell, Robin

Time for Development of Internal Erosion and Piping in Embankment Dams, 608

see Hunter, Gavan, 665

Feng, Cheng-Min

Highway Investment Planning Model for Equity Issues, 1376

Feng, Jin

Creep Modeling in Excavation Analysis of a High Rock Slope, 658

Feng, Jiu-Bin

see Han, Lin-Hai, 1119

Feng, Tong

see Shiono, Koji, 732

Feng, Zhi-Gang

Fluid-Particle Interactions and Resuspension in Simple Shear Flow, 794

Fenton, Gordon A., ed.

see VanMarcke, Erik, ed., 1632

Fenton, John D.

see Khanna, Manoj, 893

see Khanna, Manoj, 894

Fernádez, Ana I.

Stabilization of Electrical Arc Furnace Dust with Low-Grade MgO Prior to Landfill, 475

Fernández, Mario L.

see Pielke, Roger A., Jr., 1531

Ferreira, H. C.

see Amorim, L. V., 550

Fest, Etienne

Adjustable Tensegrity Structures, 1134

see Domer, Bernd, 1149

Fetterolf, Glendon J.

see Robinson, Sandra L., 470

Feyen, Jan

see Abbasi, Fariborz, 867

see Abbasi, Fariborz, 882

see Abbasi, Fariborz, 885

see De Biévre, Bert, 871

see El-Sadek, Alaa, 864

Ficara, Elena

see Rozzi, Alberto, 515

Fiedler, Fritz R.

Simple, Practical Method for Determining Station Weights Using Thiessen Polygons and Isohyetal Maps, 823

Field, Jim A.

see Razo-Flores, Elías, 560

Field, Richard

see Sample, David J., 1385

Field, Richard, P.E.

see Fan, Chi-Yuan, P.E., 718

Filho, L. H. Albuquerque

see Gomes, R. C., 1525

Fill, Heinz Dieter

Estimating Instantaneous Peak Flow from Mean Daily Flow Data, 840

Fillatrault, A.

see Tremblay, R., 1245

Filliben, James J.

see Simiu, Emil, 1125

Filz, George M.

see Esterhuizen, Jacob J. B., 10

see Gómez, Jesús E., 674

see Marques, Afonso Celso Moruzzi, 614

see Wissmann, Kord J., 600

Finchum, Mary Jo

Cultivating the Next Crop of Leaders, 932

Finck, Florian

see Grosse, Christian U., 993

Finno, Richard J.

Effects of Consolidation History on Critical State of Sand, 612

Fischer, David

Effects of Stormwater Infiltration on Quality of Groundwater Beneath Retention and Detention Basins, 497

Fischer, Martin

The Benefits of Virtual Building Tools, 1582

Impact of Information Technology on Facility Engineering, 924

see Hastings, Jessica, 921

see Staub-French, Sheryl, 151

Fischer, Martin S.

see Korman, Thomas M., P.E., 268

Fischer, Peter

see Schatzmann, Markus, 774

Fisher, John S.

see Judge, Elizabeth K., 1458

Fisher, John W.

see Tsakopoulos, Paul A., 108

Fishman, K. L.

Inclination Factors for Seismic Bearing Capacity, 660

Fityus, Stephen G.

see Li. Jie. 13

FitzSimons, Neal

see Prasuhn, A. L., 1058

Fixler, Richard S., P.E. Preparing for Takeoff, 1570

Fizik, E.

see Mirlas, V., 866

Flick, Reinhard E.

Trends in United States Tidal Datum Statistics and

Tide Range, 1444

Flintsch, Gerardo W.

see Elseiti, Mostafa A., 963

Flood, Ian, ed.

Towards a Vision for Information Technology in Civil Engineering, 1644

Floris, Claudio

see Fatica, Giulio, 294

Foda, Mostafa A.

Role of Wave Pressure in Bedload Sediment Transport, 1455

Foley, Christopher M.

Automated Design of Steel Frames using Advanced Analysis and Object-Oriented Evolutionary Computation, 1147

Foliente, Greg

see Smith, Ian, 3

Foliente, Greg C.

see Paevere, Phillip J., 1209

Folliard, Kevin

see Trejo, David, 1019

Foong

2003 ASCE TRANSACTIONS

Foong, Wai Kuan

see Maier, Holger R., 1399

Forde, M. C.

see Colombo, Ing. S., 994

Forster, Christopher F.

see Hallam, Nicholas B., 1387

Fortin, Yves

see Derome, Dominique, 60

Foster, Mark

see Fell, Robin, 608

Foster, Stephen J.

Cracked Membrane Model: Finite Element Implementation, 1196

Fotopoulos, Georgia

How Accurately Can We Determine Orthometric Height Differences from GPS and Geoid Data?.

Foutch, Douglas A.

see Cornell, C. Allin, 6

Fox, Patrick J.

Piecewise-Linear Model for Large Strain Radial Con-

Francisca, Franco M.

Complex Dielectric Permittivity of Soil-Organic Mixtures (20 MHz-1.3 GHz), 483

Instability of Hydrocarbon Films over Mineral Surfaces: Microscale Experimental Studies, 573

Frangopol, Dan M., ed.

Life-Cycle Performance of Deteriorating Structures: Assessment, Design and Management, 1623

see Akgül, Ferhat, 114

see Estes, Allen C., 113

see Imai, Kiyohiro, 5

see Kong, Jung S., 1150

see Kong, Jung S., 1165

Frank, Karl H., P.E.

see Poston, Randall W., P.E., 1586

Frantzis, Panagiotis

Crumb Rubber-Bitumen Interactions: Cold-Stage Optical Microscopy, 1011

Fraser, Alasdair

see Ashley, Richard, 720

Fredrick, Timothy

see Loper, James, P.E., 1599

Fredsoge, Jogrgen

see Sumer, B. Mutlu, 755

Freiha, George S.

see Khoury, Oscar A., P.E., 1551

Frey, H. Christopher

Probabilistic Nonroad Mobile Source Emission Factors, 461

Fricke, K. E.

see Henderson, R. C., 1249

Fridley, Kenneth J.

see Brandt, Christopher W., 1024

see Davidow, Steven A., 1010

Froese, Thomas M.

see Hassanain, Mohammad A., 1042

Frutos, Juan Diego

Object-Oriented Model for Customer-Building Company Interaction in Mass Customization Environment,

Frydman, Shay

see Shohet, Igal M., 262

Frymier, P. D.

see Ren, S., 468

see Ren, S., 481

Fu. Gongkang

see Cohen, Harry, 107

Fu. Kuan-Chen

Nonlinear Finite-Element Analysis for Highway Bridge Superstructures, 90

Competitiveness of Inexperienced and Experienced Contractors in Bidding, 241

Fujino, takeshi

see Son, Duong Hong, 541

Fujino, Yozo

see Le Diouron, Thomas, 339

see Le Diouron, Thomas, 340

Fung, T. C.

Shapes of Submerged Funicular Arches, 297

see Gho, W. M., 1086

Fwa. T. F.

Effect of Aggregate Spacing on Skid Resistance of Asphalt Pavement, 1333

see Chan, Weng Tat, 858

see Liu, Yurong, 1321

see Zhang, J., 1366

Fwa, Tien-Fang

see Tan, Siew-Ann, 1320

Gabor, Michael, P.E.

see Zitomer, Daniel H., 1071

Gabr, M. A.

see Hossain, M. S., 691

Gadallah, Ahmed Atef

see Hassan, Hossam F., 1322

Gaines, William A.

see Mueller, Sherry A., 1478

Galati, Nestore

see Tumialan, j. Gustavo, 1185

see Indraratna, B., 666

Galloway, Patricia D., P.E.

The Mission of the Civil Engineer in the Movement of Globalization, 925

Galvão, T. C. de Brito

Effects of Kiln Ash on the Compressibility of Residual Lateritic Soils, 554

Galvão, T. Cássia de Brito

Physical and Zeta Potential Characteristics of Erodible Lateritic Soils, 1530

AUTHOR INDEX

Gilbert

Galvão, Terezinha Cássia de Brito

see Viana, Cláudia de Sanctis, 1528

Gambatese, John

see Hinze, Jimmie, 215

Gambatese, John, P.E.

see Borg, Robert F., P.E., 1507

Gambatese, John A., P.E.

Controlled Concrete Demolition using Expansive Cracking Agents, 209

Gandhi, Deepa

see Başağaoğlu, Hakan, 510

Gang, Wang

see Feng. Jin. 658

Gantzer, Charles J.

see Higashino, Makoto, 495

Garbaciak, Stephen, Jr.

Dredging '02: Key Technologies for Global Prosperity,

Garbrecht, Jürgen D., ed.

see Brown, Glenn O., ed., 1621

Garcia, Luis A.

see Shigidi, Abdalla, 155

García, Marcelo H.

see Bombardelli, Fabián A., 779

see Coleman, Stephen E., 791

García-Legl, Hildrun

see Sarcos-Portillo, Antonio, 96

Garcí-Martínez, R.

see Saavedra, I., 749

Garlock, Maria M.

Cyclic Load Tests and Analysis of Bolted Top-and-Seat Angle Connections, 1244

Garrett, James H., Jr.

see Sunkpho, Jirapon, 149

Garvin, Michael J.

Strategic Characterization of Water System Infrastructure and Management, 955

Gaslightwala, Abizer

see Mueller, Sherry A., 1478

Gatto, Kin

Effects of Loading Protocol on the Cyclic Response of Woodframe Shearwalls, 1220

see Uang, Chia-Ming, 1221

Gaur, Murari Lal

Modeling Event-Based Temporal Variability of Flow Resistance Coefficient, 829

Gavin, Henri

Fault Tolerance of Semiactive Seismic Isolation, 1173

Gayathri, V.

see Kaniraj, Shenbaga R., 1348

Ge, Y. E

Network Reserve Capacity under Influence of Traveler Information, 1314

Geaghan, James P.

see Guo, Tingzong, 484

Gee, Glendon W.

see Albright, William H., 1568

Genevois, Rinaldo

Probability of Failure Occurrence and Recurrence in Rock Slopes Stability Analysis, 15

Gentry, Randall W., P.E.

Efficacy of Genetic Algorithm to Investigate Small Scale Aquitard Leakage, 750

George, K. P., P.E.

see Rahim, Ashraf, 1295

Gérard, Bruno

see Le Bellégo, Caroline, 321

Gérard-Marchant, Pierre

see Walter, M. Todd, 822

Gerba, Charles P.

see Enriquez, Carlos, 543

Gergess, Antoine N., P.E.

see Sen, Rajan, P.E., 88

Germaine, John T., ed.

Soil Behavior and Soft Ground Construction, 1640

see Da Re, Gregory, 122

Gesund, H.

see Choo, C. C., 1500

see Deitz, D. H., P.E., 196

Ghanem, Ana

Investigation of Fluorescent Dyes as Partitioning Tracers for Subsurface Nonaqueous Phase Liquid (NAPL) Characterization, 531

Ghanem, Roger

see Kanj, Mazen, 419

Gharehbaghi, Koorosh

The Construction Manager as a Leader, 918

Effective Construction Management, 917

Gheewala, Shabbir H.

Efficacy of Biofilms under Toxic Conditions, 512

Gheorghiu, Florin

see Glazier, Robert, 1567

Ghidaoui, Mohamed S.

see Zhao, Ming, 797

Gho, W. M

Stress and Strain Concentration Factors of Completely Overlapped Tubular K(N) Joints, 1086

Ghodsian, Masoud

Flow through Side Sluice Gate, 909

Ghoneim, Mashhour, P.E.

see Hamza, Mamdouh, P.E., 1559

Gibb, A. G. F.

see Edum-Fotwe, Francis T., 1041

see Pavitt, T. C., 198

Gibson, G. Edward, Jr.

Workforce Demographics among Project Engineering Professionals—Crisis Ahead?, 959

Gilbert, Paul. H., P.E.

Infrastructure Issues for Cities—Countering Terrorist Threat, 845

Gilbert

Gilbert, Robert B.

see Welker, Andrea L., 585

Gillespie, J. W.

see Demitz, J. R., P.E., 79

Gilliam, J. W.

see Dukes, M. D., 868

Ginn, Timothy R.

see Başağaoğlu, Hakan, 510

Girmscheid, G.

Tunnel Boring Machines, 1509

Giroux, Cynthia

Flexural and Shear Rigidity of Composite Sheet Piles,

Glaser, Steven D.

see Baise, Laurie G., 619

Glazier, C.

see Cheng, H. D., 153

Glazier, Robert

Nanotechnology Takes Roots, 1567

Glondys, Nathan B.

see Mayo, Richard E., P.E., 1496

Goble, George G.

see Womack, Kevin C., 615

Goda, Yoshimi

Revisiting Wilson's Formulas for Simplified Wind-Wave Prediction, 1438

Goddard, Haynes C.

see Thurston, Hale W., 1417

Godschalk, David R.

Urban Hazard Mitigation: Creating Resilient Cities, 1534

Goel, Arun

see Verma, D. V. S., 880

Goel, Rakesh K.

see Chopra, Anil K., 1128

Goering, Douglas J.

Passively Cooled Railway Embankments for Use in Permafrost Areas, 123

Goh, A. T. C.

Pile Response Adjacent to Braced Excavation, 616

Goh, Anthony T. C.

see Show, Kuan-Yeow, 1001

Goh, Chia-Chia

Municipal Solid Waste Fly Ash as a Blended Cement Material, 1023

Goh, E. K. H.

Systematic Reliability-Based Environmental Design of Erosion for Efficient Engineered Landscape Profiling, 517

Goh, S. H.

see Abdoun, Tarek, 661

see Dobry, Ricardo, 662

2003 ASCE TRANSACTIONS

Goktepe, A. Burak

Method for Balancing Cut-Fill and Minimizing the Amount of Earthwork in the Geometric Design of Highways, 1351

Golabi, Kamal

Innovative Pavement Management and Planning System for Road Network of Portugal, 848

Goldberg, Steve

Team Effectiveness Coaching: An Innovative Approach for Supporting Teams in Complex Systems, 911

Goldfeld, Yiska

see Sheinman, Izhak, 396

Goldschmidt, E.

see Sacks, R., 129

Goldschmidt, Eytan

see Navon, Ronie, 247

Golias, John C.

Examining Sensitivity of Impact of Taxi Traffic on Capacity and Delays at Urban Road Sections, 1317

Golob, Thomas F.

Relationships among Urban Freeway Accidents, Traffic Flow, Weather, and Lighting Conditions, 1324

Goltz, Mark N.

see Stoppel, Chris M., 459

Gomes, F. C. T.

see Silva, L. A. P., 1131

Gomes, R. C.

Geotechnical Aspects of Eroded Sediments Relevant to Tailings Disposal Design, 1525

Gómez, Jesús E

Extended Hyperbolic Model for Sand-to-Concrete Interfaces, 674

Gonçalves, P. B.

see de Holanda, A. S., 332

Gonderinger, Chuck, P.E.

Reconstructed With Precision, 1548

Gong, M.

Effect of Waveform and Loading Sequence on Low-Cycle Compressive Fatigue Life of Spruce, 971

Gong, Yanglin

see Xu, Lei, 1513

González, Javier

Bivariate Drought Recurrence Analysis using Tree Ring Reconstructions, 827

Goodman, Richard E.

Investigations of Blocks in Foundations and Abutments of Concrete Dams, 588

Gorain, Ganesh C.

see Bose, Sujit K., 50

Goranflo, H. M.

see Durrans, S. R., 818

Gorantiwar, S. D.

Allocation of Scarce Water Resources using Deficit Irrigation in Rotational Systems, 876

AUTHOR INDEX

HOR INDEX

Gordaninejad, F.

see Kavlicoglu, B. M., 162

Gordnier, Raymond E.

Computation of Three-Dimensional Nonlinear Panel Flutter, 54

Gore, Lance

see Coleman, Stephen E., 783

Goring, D.

see Aberle, J., 698

Górski, Jaroslaw

see Abdelgader, Hakim S., 1000

Gosain, A. K.

see Sudheer, K. P., 883

Gosling, P. D.

Nonstandard Tensile Coupon for Fiber-Reinforced Plastics, 973

Gospodinov, Slaveiko

see Tzenkov, Tzenko, 1527

Gotesman, M.

see Mirlas, V., 866

Gotoh, Hiroshi

see Ohtsu, Iwao, 790

Gottardi, Guido

Interpretation of Slope Movements Induced by Adjacent Large Landslide in Northern Italy, 1526

Gowda, T. P. Halappa

see Bejankiwar, Rajesh S., 567

Graham, Nigel J. D.

see Jiang, Jia-Qian, 526

Graham-Brady, L. L.

Analysis of Heterogeneous Composites Based on Moving-Window Techniques, 397

Grajales, B.

see Anderson, J. B., 596

Gransberg, Douglas D., P.E.

Design/Build in Transportation from the Research Perspective, 927

Grasberger, Stefan

see Meschke, Günther, 327

Graves, Alexandria K.

see Booth, Amy M., 507

Gray, Donald H.

see Qian, Xuede, 627

see Qian, Aucuc, 021

Greco, N.

Structural Ductility in Hybrid High Performance Steel Beams, 1241

Green, M.

see Aberle, J., 698

Greenfeld, Joshua

Determination of Orthometric Height of NJI2 CORS Station, 1273

Griffith, M. C.

see Wu, Y. F., 1199

Grigas, Jonas

see Jaselskis, Edward J., 1012

Grigg, Neil S.

Water Utility Security: Multiple Hazards and Multiple Barriers, 849

Cuo

Griggs, Francis E., Jr.

Niagara Canitlever, 71

Grigoriu, Mircea

Algorithm for Generating Samples of Homogeneous Gaussian Fields, 288

Grigoriu, Mircea D.

see Phoon, Kok-Kwang, 653

see Phoon, Kok-Kwang, 654

Grimmelsman, Kirk A.

see Catbas, F. Necati, 1028

Grosse, Christian U.

Signal-Based Acoustic Emission Techniques in Civil Engineering, 993

Grossman, Barry G.

see Cosentino, Paul J., P.E., 1349

Gruhn, Arthur W., P.E.

Northeast Passage, 1587

Grzebieta, Raphael

see Elchalakani, Mohamed, 1133

Gsellmeier, Reinhard L., P.E.

Transformation, 1601

Gu, M.

see Chang, C. C., 98

Gu. Xue F.

Direct Shear Test of Sandstone-Concrete Joints, 14

Guadagnini, Alberto

see Malavasi, Stefano, 781

Guanglun, Wang

see Feng, Jin, 658

Guggemos, Angela Acree

Strategies of Extended Producer Responsibility for Buildings, 847

Gui, Qing-Ming

see Guo, Jian-Feng, 1272

Guienko, Guennadi

Geographic Information System Data for Supporting Feature Extraction from High-Resolution Aerial and Satellite Images, 1281

Guillaumot, Vincent M.

Adaptive Optimization of Infrastructure Maintenance and Inspection Decisions under Performance Model Uncertainty, 854

Gulezian, Ronald

Baseline Determination in Construction Labor Productivity-Loss Claims, 957

Gumb, Dana

see Vokral, John, P.E., 1550

Guo, Edward H.

Proof and Comments on Extensively used Assumption in PCC Pavement Analysis and Evaluation, 1309 Guo, Jian-Feng

Least Squares Fitting Method Based on Bivariate Nonuniform B-Spline and Its Applications in Surveying Engineering, 1272

Guo, Tingzong

Determination of Optimum Ingredients for Phosphogypsum Composite Stability under Marine Conditions-Response Surface Analysis with Process Variables, 484

Gupta, A. K.

see Varadarajan, A., 598

Gupta, Rajiv

Environmental Impact Analysis using Fuzzy Relation for Landfill Siting, 1374

Gupta, S. K.

see Nema, A. K., 1469

Gupta, Sudhir Kumar

see Vaishya, Rakesh Chandra, 453

Gurley, K.

First- and Higher-Order Correlation Detection using Wavelet Transforms, 305

Gurley, Kurtis R.

see Masters, Forrest, 433

Gutiérrez-Estrada, J. C.

see Pulido-Calvo, I., 886

Gutiérrez-Estrada, J. D.

see Pulido-Calvo, I., 904 Gutiérrez-Mas, José M.

see Muñoz-Perez, Juan J., 1436

Guymer, I.

see Boxall, J. B., 706

see Wilson, C. A. M. E., 770

Guyonnet, Dominique

Hybrid Approach for Addressing Uncertainty in Risk Assessments, 451

Gyasi-Agyei, Yeboah

Pond Water Source for Irrigation on Steep Slopes, 879

Haas, Carl T.

see Khoury, Joseph A., 1355

Haas, Ralph

see Attalla, Mohamed, 843

Haberfield, Chris M.

see Gu, Xue F., 14

Haberland, J.

see Colaizzi, Paul D., 863

Hadidi, Rambod

Practical Tool to Accurately Estimate Tensile Stresses in Concrete Bridge Decks to Control Transverse Cracking, 1501

Hadipriono, Fabian C., P.E.

see Wardhana, Kumalasari, 1051

see Wardhana, Kumalasari, 1052

Haehnel, Robert B.

see Sodhi, Devinder S., 125

Hagedorn, Charles

see Booth, Amy M., 507

Hagedorn, Sarah C.

see Booth, Amy M., 507

Hager, Willi H.

see Boes, Robert M., 761

see Boes, Robert M., 762

see Brown, Glenn O., ed., 1621

see Brunella, Sandro, 693 see Canepa, Stefano, 730

Hague, S.

see Dyke, S. J., 1167

Hahn, G. D.

Seismic Design of Structures by Bundled Columns,

Haikola, Bruce M.

see Loehr, Raymond C., 682

Haimes, Yacov Y., ed.

Risk-Based Decisionmaking in Water Resources X,

Haines, Kenneth, Jr.

see Borg, Robert F., P.E., 1507

Hajdin, Rade

see Adey, Bryan, 853

Haji, M. R.

see Carrara, M. D., 346

Hajjar, Dany

Unified Modeling Methodology for Construction Simulation, 11

Haldar, Achintya, P.E.

see Lee, Seung Y., 1108

see Lee, Seung Y., 1109

Hall, Fred

see Al-Kaisy, Ahmed, 1352

Hall, Jim W.

Integrated Flood Risk Management in England and Wales, 1533

Hall, Terry T., Jr.

see Albrecht, Pedro, 961

Hallam, Nicholas B.

Bulk Decay of Chlorine in Water Distribution Systems, 1387

Halling, Marvin W.

see Womack, Kevin C., 615

Halpin, Daniel W.

see Lee, Sangyoub, 246

see Shi, Jonathan Jingsheng, 222

Hamada, Hidenori

see Mohammed, Tarek Uddin, 1016

Hamburger, Ronald O.

see Cornell, C. Allin, 6

see Cornell, C. Allin,

Hamid, Ahmad A. see El-Dakhakhni, Wael W., 1103

Hamilton, H. R., III

see McManus, P. S., 1121

Hamza, Mamdouh, P.E.

Constructing on the Inconstructible, 1559

AUTHOR INDEX

Han, Chong-Teng

see Tan, Siew-Ann, 1320

Han, Lin-Hai

Concrete-Filled Hollow Structural Steel Columns after Exposure to ISO-834 Fire Standard, 1091

Experimental Study and Calculation of Fire Resistance of Concrete-Filled Hollow Steel Columns, 1119

Han, Seung H.

see Ock, Jong H., P.E., 948

Han, Seung-Woon

see Aubeny, Charles, 34

Han, Sun-Kee

see Chen, Wen-Hsing, 502

Hanagan, Linda M.

Dynamic Measurements of In-Place Steel Floors to Assess Vibration Performance, 1049

Hanaki, Keisuke

see Seo, Seongwon, 504

Hancock, Gregory J.

see Young. Ben. 1181

see Young, Ben, 1222

Hancock, Jeffrey see Hossain, Mustaque, 1334

Hand, D. W.

see Yang, J., 513

Handy, Susan

see Kockelman, Kara M., 1312

Hanhijärvi, Antti

Computational Analysis of Quality Reduction during Drying of Lumber due to Irrecoverable Deformation. I: Orthotropic Viscoelastic-Mechanosorptive-Plastic Material Model for the Transverse Plane of Wood, 391

see Mackenzie-Helnwein. Peter. 392

Hanna, Adel

Shaft Resistance of Single Vertical and Batter Piles Drive in Sand, 635

Hanna, Awad S.

see Ammar, Abdurahman, 219

Hansson, Håkan

see Camp, Charles V., 1095

Harajli, M. H.

Shear Strengthening of Interior Slab—Column Connections using Carbon Fiber-Reinforced Polymer Sheets, 173

Haralampides, Katy

Deposition Properties of Fine Sediment, 716

Harder, Leslie F., Jr.

see Wehling, Timothy M., 667

Hardy, Thomas A.

Modeling Tropical Cyclone Wave Population of the Great Barrier Reef, 1439

Hargreaves, George H.

History and Evaluation of Hargreaves Evapotranspiration Equation, 865

Harik, I. E.

see Alagusundaramoorthy, P., 188

see Choo, C. C., 1500

see Deitz, D. H., P.E., 196

Harmon, Kathleen M. J.

Conflicts between Owner and Contractors: Proposed Intervention Process, 953

Hassim

Effectiveness of Dispute Review Boards, 273

Resolution of Construction Disputes: A Review of Current Methodologies, 936

Harper, B. M.

Nonequilibrium Nonaqueous Phase Liquid Mass Transfer Model for Soil Vapor Extraction Systems, 532

Harrell, Laura J.

Detention Pond Design and Land Use Planning for Watershed Management, 1389

Harris, James R., P.E.

see Mlakar, Paul E., P.E., 1549

see Mlakar, Paul E., P.E., 1629

Hartani, T.

Drainage of Sloping Lands with Variable Recharge Model Validation and Applications, 890

Hartman, Francis T.

Ten Commandments of Better Contracting: A Practical Guide to Adding Value to an Enterprise Through More Effective SMART Contracting, 1643

Hartono, Loesie

see Nasir, Daud, 256

Hartzell, Stephen

see Zhang, Ray Ruichong, 378

Hashash, Youssef M. A.

Temperature Correction and Strut Loads in Central Artery Excavations, 626

Hassan, Hossam F.

Comparative Analysis of using AASHTO and WES-DEF Approaches in Back-Calculation of Pavement Layer Moduli, 1322

Hassan, Kazi Z. A.

Numerical Simulation of Bromate Formation during Ozonation of Bromide, 559

Hassan, Munzer

see Chaallal, Omar, 179

Hassan, Tarek

Investigation of Bond in Concrete Structures Strengthened with Near Surface Mounted Carbon Fiber Reinforced Polymer Strips, 183

Hassan, Y.

Effect of Vertical Alignment on Driver Perception of Horizontal Curves, 1331

Hassanain, Mohammad A.

Framework Model for Asset Maintenance Management, 1042

Hassanein, A.

see Moselhi, O., 272

Unceim 6

Estimation of Minimum Working Capital for Construction Projects in Malaysia, 238

Hastak

2003 ASCE TRANSACTIONS

Hastak, Makarand

State of Practice for Positive Moment Connections in Prestressed Concrete Girders Made Continuous, 102

Four-Dimensional Modeling to Support Construction Planning of the Stata Center Project, 921

Hathhorn, Wade E.

see Barber, Michael E., 811

Hatzor, Yossef H.

Keyblock Stability in Seismically Active Rock Slopes-Snake Path Cliff, Masada, 645

Haughney, RObert A.

see Borg, Robert F., P.E., 1507

Hawlader, Bipul C.

Viscosity Effects on One-Dimensional Consolidation of Clay, 21

Haymaker, John

see Hastings, Jessica, 921

Haynes, Gerald, P.E.

see Mlakar, Paul E., P.E., 1549

see Mlakar, Paul E., P.E., 1629

He. Rong

Evaluation of Value Pricing using a Multiclass Dynamic Network Model, 1357

Novel Semiactive Friction Controller for Linear Structures against Earthquakes, 1175

see Agrawal, A. K., 1169

Heaney, James P.

see Lee, Joong Gwang, 1418

see Sample, David J., 1385

Hearne, Giovanni

see Lahav, Ori, 460

Heberer, Thomas

see Verstraeten, Ingrid M., 1489

Hee, A. M.

see Karunaratne, G. P., 659

Hegazy, Tarek

Genetic Optimization for Dynamic Project Control, 242 Resource Optimization using Combined Simulation and Genetic Algorithms, 276

see Attalla, Mohamed, 843

Hegazy, Tarek, P.E.

see Attalla, Mohamed, P.E., 243

Heidengren, Charles R., P.E.

Regal Crossing, 1574

Hellinga, Bruce

see Mehmood, Arif, 1358

Helweg, Otto J., P.E.

see Korom, Scott F., P.E., 820

Henderson, R. C.

Summary of a Large- and Small-Scale Unreinforced Masonry Infill Test Program, 1249

Hendrickson, Chris

see Akinci, Burcu, 1340

see Borg, Robert F., P.E., 1507

Henn, Raymond W., ed.

AUA Guidelines for Backfilling and Contact Grouting of Tunnels and Shafts. 1609

Steepest Descent Method for Representing Spatially Correlated Uncertainty in GIS, 1280

see Law, Adrian Wing-Keung, 410

America Transformed: Engineering and Technology in the Nineteenth Century, 1606

Herrington, Thomas, ed.

see Ewing, Lesley, ed., 1646

Hertlein, Bernhardt H., ed.

Chimney and Stack Inspection Guidelines, 1610

Heubach, William F., ed.

Seismic Screening Checklists for Water and Wastewater Facilities, 1638

Hewings, Geoffrey J. D.

see Sohn, Jungyul, 1378

Heyliger, Paul R.

see Smittakorn, Watanachai, 1152

Heymsfield, Ernest

see Elliott, Mary E., 224

Hickey, John T., P.E.

Reservoir Simulations of Synthetic Rain Floods for the Sacramento and San Joaquin River Basins, 1420

Hicks, F.

see Blackburn, J., 118

Hida, Susan E.

see Song, Shin-Tai, 103

Hieronymus, Jeffrey W.

see Bowen, James D., 1405

Higashino, Makoto

Periodic Diffusional Mass Transfer near Sediment/ Water Interface: Theory, 495

Higgins, Christopher, P.E.

LRFD Orthotropic Plate Model for Live Load Moment in Filled Grid Decks, 73

Hikle, Verda

see Eldin, Neil, 234

Hill, Howard J.

Investigation of a Sheffield Structural Tile Floor Failure Indicates a Dangerous Design/Development Oversight, 1512

Hillemeier, B. see Scheel, H., 988

Hinze, Jimmie

Factors that Influence Safety Performance of Specialty Contractors, 215

see Borg, Robert F., P.E., 1507

see Huang, Xinyu, 228

Hirakawa, T.

see Sakumoto, Y., 1235

Hiss, Ryan

see Stein, Steven G. M., 1076

Hitaka, Toko

Experimental Study on Steel Shear Wall with Slits,

Hjelmstad, K. D.

see Pothisiri, T., 299

Ho, Carlton L.

see Sheahan, Thomas C., 589

Ho, Kathy S. K.

see Chan, Albert P. C., 954

Ho, S. Ping

How to Evaluate and Invest in Emerging A/E/C Technologies under Uncertainty, 199

Hobeika, Antoine

see Zarif, Jamal El, 1354

Hodges, Ben R.

see Dallimore, Chris J., 769

see Laval, Bernard, 714

Hoel, Lester A.

see Williams, Billy M., 1363

Hoenderkamp, J. C. D.

Preliminary Analysis of High-Rise Braced Frames with Facade Riggers, 1146

Hokanson, D. R.

see Yang, J., 513

Holbrook, R. David

Biological Wastewater Treatment and Estrogenic Endocrine Disrupting Compounds: Importance of Colloid Organic Carbon, 1492

Holden, Tony

Seismic Performance of Precast Reinforced and Prestressed Concrete Walls, 1114

Holder, Anthony

see Bedient, Philip B., 834

Hollaway, L.

see Hulatt, J., 172

Holman, J. B.

Oxidation-Reduction Potential as a Monitoring Tool in a Low Dissolved Oxygen Wastewater Treatment Process, 449

Holzer, Thomas L.

see Toprak, Selcuk, 609

Hong, Sze-Yunn

see Tay, Joo-Hwa, 1030

Hongbin, Jiang

see Pheng, Low Sui, 264

Honigmann, Chelsea

Conceptual Design for the Sunniberg Bridge, 84

Hoogenboom, G.

see Irmak, S., 887

Horman, Michael J.

see Thomas, H. Randolph, 227

Horton, Richard, P.E.

Can Less Be More?, 1598

Horvath, Arpad

see Borg, Robert F., P.E., 1507

see Guggemos, Angela Acree, 847

see Junnila, Seppo, 857

Hoshino, Takashi

see Cahoon, Joel, P.E., 776

Hossain, M. S.

Relationship of Compressibility Parameters to Municipal Solid Waste Decomposition, 691

Hossain, Mustaque

Cross Tensioned Concrete Pavement, 1334

Houghtalen, Robert

see Talbert, Matthew, 1078

Houlsby, G. T.

see Puzrin, A. M., 312

Hounsell, N. B.

see Waterson, B. J., 1360

Howell, T. A.

see Irmak, S., 887

Howitt, Richard E.

see Draper, Andrew J., 1395

Hsieh, Hsii-Sheng

Use of Jet Grouting to Limit Diaphragm Wall Displacement of a Deep Excavation, 592

Hsieh, Ping-cheng

Effects of Weakly Nonlinear Water Waves on Soft Poroelastic Bed with Finite Thickness, 307

Laminar Water Wave and Current Passing over Porous Bed, 355

Hsieh, Ping-Cheng

see Chan, I-Chi, 350

Hsieh, Shih-Chun

see Lin, Chang, 402

Hsieh, T. Y.

Investigation on the Suitability of Two-Dimensional Depth-Averaged Models for Bend-Flow Simulation.

Hsieh, William W.

Seasonal Prediction with Error Estimation of Columbia River Streamflow in British Columbia, 1394

Hsiung, Yun-mei

Theoretical Elastic-Plastic Solution for Laterally Loaded Piles, 624

Hsu, C. T. Thomas

see Hadidi, Rambod, 1501

Hsu, Hsieh-Lung

Improving Seismic Design Efficiency of Petrochemical Facilities, 1505

Hsu, Ming-Hsi

see Liu, Wen-Cheng, 1437

Hsu, Nien-Sheng

see Tu, Ming-Yen, 1388

Hsu, S. A.

Estimating Overwater Friction Velocity and Exponent of Power-Law Wind Profile from Gust Factor during Storms, 1446

Hsu, S. T.

see Liao, H. J., 632

Hsu

Hsu. Tai-Wen

Second-Order Radiation Boundary Condition for Water Wave Simulation with Large Angle Incidence, 434

Hsueh, H. T.

see Chien, T. W., 557

Hu, Hsuan-Teh

Nonlinear Analysis of Axially Loaded Concrete-Filled Tube Columns with Confinement Effect, 1213

Hu, J. Y.

see Ong, S. L., 448

Hu, Jingqing

Examples of Settlement in Structures Constructed on Tidal Silt in Coastal Areas of Southeast China. 1508

Hu, Liming

see Lo. Irene M. C. Lo. 1480

Hu, W. C.

Efficient Least Squares Coordinate Transformation for an Arbitrary Number of Parameters, 1265

Hu, Xiao Dong

Biaxial Failure Model for Fiber Reinforced Concrete, 1034

Hua, Fang

see Hallam, Nicholas B., 1387

Huaco, Daniel

see Sanford Bernhardt, Kristen L., 852

Huang, C. P.

see Chuang, C. L., 1477

Huang, Chihpin

see Den. Walter. 516

Huang, Ching-Tung

Considerations of Multimode Structural Response for Near-Field Earthquakes, 334

Huang, Chiung-Shiann

see Hu, Hsuan-Teh, 1213

Huang, G. H.

see Chen, Z., 452

see Chen, Z., 544

see Huang, Y. F., 1472

see Li, Jian-Bing, 1473

Huang, Guo H.

see Magsood, Imran, 1471

Huang, Ju-Chang

see Khanal, Samir Kumar, 571

Huang, Liang-Hsiung

see Chan, I-Chi, 350

Huang, Liang-hsiung

see Hsieh, Ping-cheng, 307

see Hsieh, Ping-cheng, 355

Huang, S. Y.

see Capart, H., 733

Huang, Sui Liang

Investigation of Cadmium Desorption from Different-Sized Sediments, 471 Huang, Wenrui

Field Experiment Study of Transient Stratified Flow in an Estuary, 413

2003 ASCE TRANSACTIONS

Huang, X.

see Balendra, T., 1183

Huang, Xiangjiang

see Ni. Jinren, 442

Huang, Xinyu Analysis of Construction Worker Fall Accidents, 228

Huang, Y. F.

Integrated Simulation-Optimization Approach for Real-Time Dynamic Modeling and Process Control of Surfactant-Enhanced Remediation at Petroleum-Contaminated Sites, 1472

Huang, Yen-Hui

see Chen, Yung-Hsiang, 390

Huang, Yue-wern

Occurrence and Effects of Endocrine Disrupting Chemicals in the Environment, 1488

Huang, Z. F.

Analytical Fire Resistance of Axially Restrained Steel Columns, 1236

Huang, Zhaohui

Modeling Membrane Action of Concrete Slabs in Composite Buildings in Fire. 1: Theoretical Development, 1190

Modeling Membrane Action of Concrete Slabs in Composite Buildings in Fire. II: Validations, 1191

Huang, Zhigang

see Stewart, Mark G., 1519

Hudson, W. Ronald, P.E.

see Sun. Lu. 1296

Hudyma, Nick

see Karakouzian, Moses, 1048

Hugo, Fred

see Martin, Amy Epps, 1337

Hulatt, J.

Short Term Testing of Hybrid T Beam Made of New Prepreg Material, 172

Hunsaker, D. J.

see Zerihun, D., 878

Hunsaker, Douglas J.

see Abbasi, Fariborz, 867

see Abbasi, Fariborz, 885

Hunston, D.

see Karbhari, V. M., 182

Hunt, Bruce

Field-Data Analysis for Stream Depletion, 824

Unsteady Stream Depletion when Pumping from Semiconfined Aquifer, 800

Hunt, James R.

see Love, Adam H., 522

Hunter, Gavan

Rockfill Modulus and Settlement of Concrete Face Rockfill Dams, 665

Hunter, Wayne, P.E.

see Ryburn, David, 1565

Huo, Jing-si

see Han, Lin-Hai, 1091

Hurt, Joh

see Woods, Eddie, 1603

Hurtado, Jorge E.

Classification Approach for Reliability Analysis with Stochastic Finite-Element Modeling, 1195

Hussain, Ejaz

see Shan, Jie, 1268

Hutchinson, Tara C.

see Chai, Y. H., 1139

Huygens, Marc

see De Sutter, Renaat, 727

Hvitved-Jacobsen, Thorkild

see Ashley, Richard, 720

Hwang, Yongwoo

see Park, Kwangho. 200

see Seo, Seongwon, 504

Hyde, Adrian F. L.

see Yasuhara, Kazuya, 649

Ibbs, C. William

Project Delivery Systems and Project Change: Quantitative Analysis, 240

Ibrahimi, F.

Lagoon Effluent Treatment using Grass Filtration, 563

Ieda, Hitoshi

see Wang, Yinhai, 1328

Ikeda, Yoshiki

see Nishitani, Akira, 1174

Ilozor, B. D.

see Okoroh. M. I., 1039

Imai. Gos

see Hawlader, Bipul C., 21

Imai, Kiyohiro

Reliability-Based Assessment of Suspension Bridges: Application to the Innoshima Bridge, 5

Imberger, Jörg

see Dallimore, Chris J., 769

see Laval, Bernard, 714

Imran, Jasim

see Kassem, Ahmed, 789

Indraratna, B.

Two-Phase (Air and Water) Flow through Rock Joints: Analytical and Experimental Study, 666

Indurthy, S. K. V. Prasad

see Jain, Ashu, 809

Ingram, D. M.

see Qian, L., 764

Iniestra-González, Margarita

see Razo-Flores, Elius, 560

Inouye, Lance M.

Okada Trucking Bombshell, 1074

Inyang, Hilary I.

Framework for Recycling of Wastes in Construction,

see Daniels, John L., P.E., 977

see Meegoda, Jay N., 1467

see Ogunro, Vincent O., 552

Irabien, Angel

see Olmo, Ignacio Fernández, 505

Iranpour, Reza

see Tzeng, Chwen-Jeng, 489

Irmak, A.

see Irmak, S., 887

see Irmak, S., 896

Irmak, S.

Daily Grass and Alfalfa-Reference Evapotranspiration Estimates and Alfalfa-to-Grass Evapotranspiration Ratios in Florida¹, 898

Predicting Daily Net Radiation using Minimum Climatological Data, 887

Solar and Net Radiation-Based Equations to Estimate Reference Evapotranspiration in Humid Climates,

Irschik, Hans

see Cojocaru, Eugenia C., 399

rving.

see Bischoff, Peter H., 1498

Isacsson, Ulf

see Karlsson, Robert, 979

Isenberg, Jeremy, P.E.

see Gilbert, Paul. H., P.E., 845

Iskandar, Iskandar K.

see Daniels, John L., P.E., 977

Iskander, Magued, P.E.

Drilled Shaft Defects: Detection, and Effects on Capacity in Varved Clay, 689

see Aboumoussa, Walid, P.E., 1026

Iskander, Magued G.

see Sadek, Samer, 135

Isley, Fred

see Zhang, James S., 178

Issa, Camille

see Sen, Rajan, P.E., 88

Issa, N.

see Monaghan, J. J., 1456

Issa, Raja R. A.

see Cox, Robert F., 213

Itenfisu, Daniel

Comparison of Reference Evapotranspiration Calculations as Part of the ASCE Standardization Effort, 906

Iu, V. P.

see Yam, Michael C. H., 1084

Ivey, Stephanie

see Gentry, Randall W., P.E., 750

Iwan, W. D.

see Scruggs, J. T., 1176

Iyama

Iyama, Jun

see Kuwamura, Hitoshi, 1230

Jackson, C.

see Zdravković, L., 12

Jackson, N. M., P.E.

100-mm-Diameter Mold Used with Superpave Gyratory Compactor, 967

Jackson, Nancy L.

see Nordstrom, Karl F., 1427

Jackson, R. H. F.

see Teague, T. L., 920

Jacobs, J. M.

see Irmak, S., 887

Jacobs, Jennifer M.

Atmospheric Momentum Roughness Applied to Stage-Discharge Relationships in Flood Plains, 810

Jacobs, Laurence J.

see Becker, Jens. 440

Jade, Sridevi

Characterization of Strength and Deformation of Jointed Rock Mass Based on Statistical Analysis, 16

Jafari, M. R.

see Au, S. K. A., 603

Jaffe, David A.

see Sanders, Brett F., 717

Jain, Ashu

Comparative Analysis of Event-Based Rainfall-Runoff Modeling Techniques—Deterministic, Statistical, and Artificial Neural Networks, 809

Jain, Chandrashekhar K.

see Jain, Sudhir K., 401

Jain, S. K.

see Sudheer, K. P., 816

Jain, Sudhir K.

Dynamics of a Class of Horizontal Setback Buildings, 401

Jairaj, P. G.

Modeling Reservoir Irrigation in Uncertain Hydrologic Environment, 877

Jajich, D.

Measurement and Analysis of Distortion-Induced Fatigue in Multigirder Steel Bridges, 80

Jalayer, Fatemeh

see Cornell, C. Allin, 6

James, C. S.

see Jordanova, Angelina A., 744

James, David

see Singh, Vivek, 830

James, David M.

Issues in Construction of a Unique Heavily Reinforced Concrete Structure, 1503

James, Scott C.

see Roberts, Jesse D., 782

Jang, Sung-Gheel

see Sohn, Jungyul, 1378

2003 ASCE TRANSACTIONS

Jang, Tae Youn

Causal Relationship among Travel Mode, Activity, and Travel Patterns, 1285

Janjic, D.

Optimization of Cable Tensioning in Cable-Stayed Bridges, 85

Jannadi, Osama Ahmed

Risk Assessment in Construction, 253

Jaselskis, Edward J.

Dielectric Properties of Asphalt Pavement, 1012 Implementing Radio Frequency Identification in the Construction Process, 274

Jasper, Harry, P.E.

see Banchik, Carlos A., P.E., 1557

Jaturapitakkul, Chai

Cementing Material from Calcium Carbide Residue-Rice Husk Ash, 1017

Development of Bottom Ash as Pozzolanic Material, 965

Jáuregui, David V.

Noncontract Photogrammetric Measurement of Vertical Bridge Deflection, 95

Jayanandana, A. D. C.

see Dias. W. P. S., 1055

Jean, Shyi-Yun

see Hsu, Hsieh-Lung, 1505

Jebelifard, Saeed

see Samani, Hossein M. V., 778

Jeng, Raymond I., P.E.

True Form of Instantaneous Unit Hydrograph of Linear Reservoirs, 860

Jenkins, Marion W.

see Draper, Andrew J., 1395

Jensen, Janet L.

see Whelton, Andrew J., 1595

Jeon, Sang-Eun

see Bažant, Zdeněk P., 286

Jeppsson, Joakim

Behavior of Reinforced Concrete Beams with Loss of Bond at Longitudinal Reinforcement, 1219

Jepsen, Richard A.

see Roberts, Jesse D., 782

Jha, Madan K.

see Samuel, Manoj P., 897

Jha, Manoj K.

Criteria-Based Decision Support System for Selecting Highway Alignments, 1287

Trade-Offs between Initial and Maintenance Costs of Highways in Cross-Slopes, 842

Jiang, Jia-Qian

Development of Optimal Poly-Alumino-Iron Sulphate Coagulant, 526

Jiang, Shou-Chao

see Li, Guo-Qiang, 1254

Jiang, Xiaomo

Freeway Work Zone Traffic Delay and Cost Optimization Model, 1311 see Adeli, Hojjat, 1342

Jiménez, José A.

A Simple formula to Estimate Settling Velocity of Natural Sediments, 1435

Jin, Jun

Inelastic Cyclic Model for Steel Braces, 342

Jin, Xianyu

Effects of Mineral Admixture on Properties of Young Concrete, 1013

Jin, Yinggin "Elaine"

Substitution of Fly Ash, Slag, and Chemical Admixtures in Concrete Mix Designs, 1033

Jinadasa, Srinath, P.E.

see Dinkels, Jerrold, P.E., 1577

Jirka, Gerhard H.

see Chu, Chia R., 574

Jiu, Anguan

see Deng, Zongcai, 360

Joaquin, Alejandro

see Ahlfeld, David, P.E., 792

Johnsen, Lawrence F., ed.

Grouting and Ground Treatment, 1618

Johnson, Arne P.

Creep of Wood I-Joists Exposed to Abnormally High Moisture Conditions, 1497

Johnson, Billy

see Cerco, Carl. 480

Johnson, Douglas E.

see Molenaar, Keith R., 928

Johnson, Kent R.

Measurements of Water Surface Profile and Velocity Field at a Circular Pier, 338

Johnson, Paul, P.E.

see Zitomer, Daniel H., 1071

Johnson, Terry L., P.E.

see Sandino, Julian, P.E., 1589

Jones, C. M.

see Okoroh, M. I., 1039

Jones, J. W.

see Irmak, S., 887

see Irmak, S., 896

Jones, Sean C.

Application of Fiber-Reinforced Polymer Overlays to Extend Steel Fatigue Life, 192

Jones, Sharon A.

see Talbert, Matthew, 1078

Jones, W. D.

see Henderson, R. C., 1249

Jones, W. K.

see Huang, Wenrui, 413

Joo, Ik-Seong

Economizer Application in Dual-Duct Air-Handling Units, 68 Jordanova, Angelina A.

Experimental Study of Bed Load Transport through Emergent Vegetation, 744

Joseph, Johny

see Vatsa, Krishna S., 1542

Joshi, Bhaskar

Behavior of Calculated Nail Head Strength in Soil-Nailed Structures, 655

Joshi, N. R.

see Malvar, L. J., 163

Juang, C. Hsein

Simplified Cone Penetration Test-Based Method for Evaluating Liquefaction Resistance of Soils, 584

Judge, Elizabeth K.

Vulnerability Indicators for Coastal Dunes, 1458

Juirnarongrit, Teerawut

see Ashford, Scott A., 601

Jung, Hyung-Jo

Control of Seismically Excited Cable-Stayed Bridge Employing Magnetorheological Fluid Dampers, 1168

Jung, Kwang-Sik

see Yoo, Chulsang, 814

Jung, Woo-Young

see Aref, Amjad J., 1126

Junnila, Seppo

Life-Cycle Environmental Effects of an Office Building, 857

Juska, T.

see Karbhari, V. M., 182

Kadir, M. R. A.

see Hassim, S., 238

Kaiser, Mark J.

Decommissioning Cost Functions in the Gulf of Mexico, 1460

Kale, Serdar

Differentiation, Conformity, and Construction Firm Performance, 944

Kaliakin, Victor N.

see Qubain, Bashar S., 593

Kalinski, M. E.

In Situ Estimate of Shear Wave Velocity using Borehole Spectral Analysis of Surface Waves Tool, 629

Kaniraj, Shenbaga R.

Factors Influencing the Strength of Cement Fly Ash Base Courses, 1348

Kanj, Mazen

Poromechanics of Anisotropic Hollow Cylinders, 419

Kannan, R. S. S.

see Siriwardane, Hema J., 549

Kapelan, Zoran S.

Multiobjective Sampling Design for Water Distribution Model Calibration, 1422

Karaesmen, Itir

see Akinci, Burcu, 1340

Karakoulas

Karakoulas, Grigoris J.

see Abdulhai, Baher, 1316

Karakouzian, Moses

Alkali-Silica Reaction—Possible Cause of Map Cracking in Gunite, 1048

Karamanos, S. A.

see Papaspyrou, S., 429

Karbhari, V. M.

Durability Gap Analysis for Fiber-Reinforced Polymer Composites in Civil Infrastructure, 182

Karbhari, Vistasp

see Seim, Werner, 1157

Karbhari, Vistasp M.

see Zhang, James S., 178

Kareem, A.

see Gurley, K., 305

Kareem, Ahsan

see Chen, Xinzhong, 300

see Chen, Xinzhong, 380

see Chen, Xinzhong, 1210

see Yalla, Swaroop K., S.M., 1177

see Zhou, Yin, 315

see Zhou. Yin 1123

Karihaloo, Bhushan Lal

see Alaee, Farshid Jandaghi, 176

see Alaee, Farshid Jandaghi, 394

Karim, Asim

CBR Model for Freeway Work Zone Traffic Management, 1299

Fast Automatic Incident Detection on Urban and Rural Freeways using Wavelet Energy Algorithm, 1290

Radial Basis Function Neural Network for Work Zone Capacity and Queue Estimation, 1343

Karimi, Hassan

see Rasdorf, William, P.E., 134

Karlaftis, A.

see Loizos, A., 1335

Karlsson, Robert

Application of FTIR-ATR to Characterization of Bitumen Rejuvenator Diffusion, 979

Karunaratne, G. P.

Installation Stress in Prefabricated Vertical Drains, 659

Kasal, Bo

see Paevere, Phillip J., 1209

Kassab, Moustafa

see Hegazy, Tarek, 276

Kassem, Ahmed

Three-Dimensional Modeling of Negatively Buoyant Flow in Diverging Channels, 789

Katti, Dinesh R.

Undrained Response of Clays to Varying Strain Rate.

Kausel, Eduardo A.

see Starnes, Monica A., 992

Kavlicoglu, B. M.

Fatigue Response of New Graphite/Epoxy-Concrete Girder, 162

Kavvas, M. Levent

Nonlinear Hydrologic Processes: Conservation Equations for Determining Their Means and Probability Distributions, 804

see Yoon, Jaeyoung, 805

Kaw, Autar K.

see Besterfield, Glen, 94

Kawabata, J.

see Soga, K., 595

Kawabata, Toshinori

see Ling, Hoe I., 685

Kawashima, Kazuhiko

see Oreta, Andres W. C., 1138

Kaya, Abidin

see Galvão, T. Cássia de Brito, 1530

Kayhanian, Masoud

Impact of Annual Average Daily Traffic on Highway Runoff Pollutant Concentrations, 558

Kaysi, Isam A.

Hot Spot Management Benefits: Robustness Analysis for a Congested Developing City, 1307

Kechavarzi, C.

see Soga, K., 595

Kecman, Vojislav

see Vojinovic, Zoran, 1426

Keel, Gary

see Titi, Hani, P.E., 1297

Keller, Heather

Occurrence and Degradation of Estrogenic Nonylphenol and its Precursors in Northeast Kansas Wastewater Treatment Plants, 1484

Kelley, Shawn

see Iskander, Magued, P.E., 689

Kelly, C. J.

see Lajoie, C. A., 546

Kelly, James M.

Tension Buckling in Multiplayer Elastomeric Bearings,

Kelly, Michael E.

see Abdel-Qader, Ikhlas, P.E., 152

Kennedy, John B.

see Sennah, Khaled, 87

Kenny, Thomas W.

see Lynch, Jerome P., 49

Kenselaar, Frank

see Tiberius, Christian, 1257

Keramaris, Evangelos

see Prinos, Panayotis, 767

Kerley, Roger, P.E.

see Mariani, T. F., P.E., 1564

Kerr, Richard

see Thompson, Paul D., 110

Kershaw, Kyle A.

see Hashash, Youssef M. A., 626

Keshavarzian, Mehran

Extreme Wind Design of Self-Supported Steel Structures: Critical Review of Related ASCE Publications, 1504

Kewalramani, Manish A.

see Gupta, Rajiv, 1374

Khaloo, Ali R.

Load Distribution Factors in Simply Supported Skew Bridges, 99

Khan, Jamil A.

see Kassem, Ahmed, 789

Khan, M. I.

Permeation of High Performance Concrete, 970

Khanal, Samir Kumar

Anaerobic Treatment of High Sulfate Wastewater with Oxygenation to Control Sulfide Toxicity, 571

Khanna, Manoj

Two-Dimensional Simulation Model for Contour Basin Layouts in Southeast Australia. I: Rectangular Basins, 893

Two-Dimensional Simulation Model for Contour Basin Layouts in Southeast Australia. II: Irregular Shape and Multiple Basins, 894

Kharkovsky, S. N.

Nondestructive Testing of Mortar Specimens using the Microwave Free-Space Method, 984

Khennane, Amar

Durability of Glass Polymer Composites Subject to Stress Corrosion, 169

Khot, Narendra S.

Design of Flutter Characteristics of Composite Wings Using Frequency Constraint Optimization, 40

Khoury, Joseph A.

Performance Comparison of Automatic Vehicle Identification and Inductive Loop Traffic Detectors for Incident Detection, 1355

Khoury, Oscar A., P.E.

San Diego Delivers, 1551

Khuri-Yakub, Butrus T. see Ergun, Arif S., 46

Kibbey, Tohren C. G.

see Caires, Julie P., 578

Kibiloski, John

see Hastings, Jessica, 921

Kibler, David F.

see Bosch, Darrell J., 1390

Kicher, Thomas

see Mitchell, Jay S., 43

Kihl, David P.

see Lutes, Loren D., 1166

Kijewski, T.

**** * * * * **

see Gurley, K., 305 Kijewski, Tracy

see Zhou, Yin, 1123

Kikuchi, Shinya, P.E.

Impacts of Shorter Perception-Reaction Time of Adapted Cruise Controlled Vehicles on Traffic Flow and Safety, 1300

Kim, B. J.

see Scott, B., 606

Kim, Bumjoo

see Paik, Kyuho, 607

Kim, Byung R.

see Mueller, Sherry A., 1478

Kim, C. H.

see Park, J. W., 1164

Kim, Dae-Sik

Modeling Urbanization by Accessibility in Rapid-Growth Areas, 1370

Kim, Hakjun

see Park, Honggun, 1118

Kim, Hansang

see Melhem, Hani, 345

Kim, J. W.

see McGee, O. G., 372

Kim, Jeong-Tae

Nondestructive Crack Detection Algorithm for Full-Scale Bridges, 1217

Kim, Jin-Keun

see Bažant, Zdeněk P., 286

Kim, Keesoo

Agent-Based Compensatory Negotiation Methodology to Facilitate Distributed Coordination of Project Schedule Changes, 128

Kim, Keu

see Cerco, Carl. 480

Kim, Kyunghwan

Phantom Float, 255

Kim, Nak-Kyung

Performance of Tension and Compression Anchors in Weathered Soil, 690

Kim, Sang-Hoon

Effects of Seismically Induced Pounding at Expansion Joints of Concrete Bridges, 414

Kim, Seunghyun

Kinematic Soil-Structure Interaction from Strong Motion Recordings, 610

Kim, Sung-Keun

Construction Robot Path-Planning for Earthwork Operations, 136

Kim, Tae-Hoon

Inelastic Behavior and Ductility Capacity of Reinforced Concrete Bridge Piers under Earthquake. 1: Theory and Formulation, 1201

Inelastic Behavior and Ductility Capacity of Reinforced Concrete Bridge Piers under Earthquake. II: Numerical Validation, 1202

Kim, Tae-Woong

Nonlinear Model for Drought Forecasting Based on a Conjunction of Wavelet Transforms and Neural Networks, 835 Nonparametric Approach for Estimating Return Periods of Droughts in Arid Regions, 826

Kim, Tschangho John see Sohn, Jungyul, 1378

Kim, Y. S.

see McGee, O. G., 372

Kim, Yong-Rak

Fatigue and Healing Characterization of Asphalt Mixtures, 969

King, Steven G.

see Barber, Michael E., 811

King, W. S.

Experimental Investigations of Bailey Bridges, 109

Kirby, James T.

see Shi, Fengyan, 1441

Kirby, Jeffrey G.

see Soibelman, Lucio, 251

Kirby, Kenneth W.

see Draper, Andrew J., 1395

Kiremidjian, Anne S.

see Lynch, Jerome P., 49

see Pachakis, Dimitris, 1449

Kirsch, U.

Design-Oriented Analysis of Structures—Unified Approach, 313

Kirshen, Paul

see Westphal, Kirk S., 1396

Kishen, J. M. Chandra

see Sujatha, V., 370

Kitagawa, Y.

see Bahar, O., 418

Kitipornchai, S.

see Lee, Y. Y., 316

see Lim, C. W., 379

see Xiang, Y., 375

Klangvijit, C.

see Ukritchon, Boonchai, 623

Klein, Roberta

see Pielke, Roger A., Jr., 1531

Kleusberg, Alfred

see El-Rabbany, Ahmed, 1259

Klingeman, Peter C.

see Shields, F. Douglas, Jr., 754

Knapton, John

see Moodi, Faramarz, 260

Knocke, William R., P.E.

see Tadanier, Christopher J., 447

Ko, Chien-Ho

see Cheng, Min-Yuan, 250

Kobayashi, A. R. K.

see Parreira, A. B., 556

Kobayashi, Nobuhisa

Performance of Coastal Structures against Sequences of Hurricanes, 1452

Kobayashi, Shintaro

see Kim, Dae-Sik, 1370

Kobori, Takuji

see Kurata, Narito, 1172

see Kurino, Haruhiko, 1170

Kockelman, Kara M.

Frontage Roads: Assessment of Legal Issues, Design Decisions, Costs, Operations, and Land-Development Differences, 1312

Kodur, V. K. R.

Effect of Strength and Fiber Reinforcement on Fire Resistance of High-Strength Concrete Columns,

Effect of Temperature on Thermal Properties of High-Strength Concrete, 972

Koehn, Enno, P.E.

see Borg, Robert F., P.E., 1507

Koehn, Enno "Ed", P.E.

Quality, Environmental, and Health and Safety Management Systems for Construction Engineering, 261

Koerner, Robert M.

see Qian, Xuede, 627

Koh, C. G.

Substructural Identification Method without Interface Measurement, 367

Kollalr, László P.

Local Buckling of Fiber-Reinforced Plastic Composite Structural Members with Open and Closed Cross Sections, 1233

Kolluru, Venkat S.

Hydrodynamic Modeling of Coastal LNG Cooling Water Discharge, 278

Komisar, Simeon J.

see Seok, Jonghyuk, 454

see Seok, Jonghyuk, 455

Komiya, K.

see Au, S. K. A., 603

Kong, C. W.

see Li, Heng, 275

Kong, Jung S.

Evaluation of Expected Life-Cycle Maintenance Cost of Deteriorating Structures, 1150

Life-Cycle Reliability-Based Maintenance Cost Optimization of Deteriorating Structures with Emphasis on Bridges, 1165

Koo, Kyo-Jin

see Kim, Sung-Keun, 136

Koppeschaar, K.

see de Blois, C. J., 1398

Korista, D. Stanton, P.E.

see McCormick, Shane, 1561

Korman, Thomas M., P.E.

Knowledge and Reasoning for MEP Coordination, 268

Korney, Konstantin

see Marelius, Fredrick, 793

Kornhauser, Alain L.

see He, Rong, 1357

Korom, Scott F., P.E.

Influence of Pump Intake Location on Well Efficiency,

see Monaghan, J. J., 1456

Koseki, Junichi

see Tatsuoka, Fumio, 622

Kossler, Deb

see Melhem, Hani G., 132

Kosteski, N.

Longitudinal Plate and through Plate-to-Hollow Structural Section Welded Connections, 1130

Welded Tee-to-HSS Connections, 1100

Kostrzewski, Michael

see Colaizzi, Paul D., 863

Kot, Kunal

see Bashford, Howard H., 235

Kothari, D. P.

see Shikha, 281

see Shikha, 282

Kothawala, Mohammed, P.E.

see Textor, G. Nicholas, P.E., 1566

Kothvari, Umesh C.

see Ansari, Sarfaraz A., 798

Kotroni, Vassiliki

see Koussis, Antonis D., 799

Kotsakis, Christopher

see Fotopoulos, Georgia, 1256

Koumousis, V. K.

see Dimou, C. K., 141

Koussis, Antonis D.

Flood Forecasts for Urban Basin with Integrated Hydro-Meteorological Model, 799

Koutsopoulos, Haris N.

see Amekudzi, Adio, 1369

Kowalski, Wladysław

Modeling Immune Building Systems for Bioterrorism Defense, 64

Kraus, Rudolph N.

see Naik, Tarun R., 1008

Krause, Martin

see Schickert, Martin, 989

Kremer, Paul A.

see Memari, Ali M., 63

Krishnan, Rajan, P.E.

Singapore on the Move, 1596

Krishnappan, B. G.

see Haralampides, Katy, 716

Krishnaswamy, N. R.

see Lekha, K. R., 675

Krosley, Lisa

see Likos, William J., 642

Krupicka, Gary, P.E.

see Horton, Richard, P.E., 1598

Kruyt, N. P.

see Dekker, M. A., 1450

Kuchipudi, Chandra Mouly

see Chien, Steven I-Jy, 1356

Kuczera, George

see Cui, Li-Jie, 1414

Kuhn, Matthew R.

Smooth Convex Three-Dimensional Particle for the Discrete-Element Method, 341

Kulhawy, Fred H.

see Phoon, Kok-Kwang, 653

see Phoon, Kok-Kwang, 654

Kumar, Arvind

Closely Spaced Footings on Geogrid-Reinforced Sand, 641

Kumar, M. S. Mohan

see Munavalli, G. R., 1392

see Munavalli, G. R., 1424

Kumar, Ranvir

Regional Water Management Modeling for Decision Support in Irrigated Agriculture, 905

Kumar, Sanjeev

Evaluation of Illinois Pulverized Coal Combustion Dry Bottom Ash for Use in Geotechnical Engineering Applications, 279

Kumar, Upendra

see Chandra, Satish, 1301

Kumar, Vineet

see Davidson, Rachel A., 846

Kumaraswamy, Mohan M.

see Ng. S. Thomas, 130

see Palaneeswaran, Ekambaram, 218

Kunickis, S. H.

see Dukes, M. D., 868

Kunnath, S. K.

see Chai, Y. H., 1189

Kunnath, Sashi K.

see Rittenburg, Kathleen A. Wills, 1238

Kunz, John

see Fischer, Martin, 924

see Staub-French, Sheryl, 151

Kuo, Jeff

Standardized Collimated Beam Testing Protocol for Water/Wastewater Ultraviolet Disinfection, 535

Kuprenas, John A.

Project Management Actions to Improve Design Phase Cost Performance, 941

Kuprenas, John A., P.E.

see Tischer, Thomas E., P.E., 226

Kurata, Narito

Reliability of Applied Semiactive Structural Control System, 117

Kurdila, Andrew J.

Nonlinear Control Methodologies for Hysteresis in PZT Actuated On-Blade Elevons, 55

Kurino, Haruhiko

Switching Oil Damper with Built-in Controller for Structural Control, 1170

Kutoglu, Hakan S.

Effects of Errors in Coordinates on Transformation Parameters, 1269

Kuwamura, Hitoshi

Effects of Material Toughness and Plate Thickness on Brittle Fracture of Steel Members, 1230

Kuzik, Marc D.

Cyclic Flexure Tests of Masonry Walls Reinforced with Glass Fiber Reinforced Polymer Sheets, 159

Kvasnak, Andrea

see Sadek, Adel W., 851

Kwak, Young Hoon

see Ibbs, C. William, 240

Kwan, C. Y.

see Chu, W., 528

Kwan, Wing-Pin

Influence of Hysteretic Behavior on Equivalent Period and Damping of Structural Systems, 1140

Unbonded Posttensioned Concrete Bridge Piers. 1: Monotonic and Cyclic Analyses, 81

Unbonded Posttensioned Concrete Bridge Piers. II: Seismic Analyses, 82

Labadie, John W.

see Yi. Jaeeung, 1415

Labi, Samuel

Measures of Short-Term Effectiveness of Highway Pavement Maintenance, 1364

Lackner, Roman

Scale Transition in Steel-Concrete Interaction. 1: Model, 328

Scale Transition in Steel-Concrete Interaction. II: Applications, 329

see Pichler, Christian, 387

Ladanyi, Branko

see Andersland, Orlando B, 1616

Ladd, Charles C.

see Da Re. Gregory, 122

Lade, Poul V.

Effects of Cross Anisotropy on Three-Dimensional Behavior of Sand. II: Volume Change Behavior and Failure, 302

see Abelev, Andrei V., 301

LaFountain, Lester

see Loan, Abid, P.E., 1592

see Zornberg, Jorge G., 620

Lagasse, P.

see Sears. K., 457

Lagerkvist, Anders

see Ecke, Holger, 493

Lagouvardos, Konstantinos

see Koussis, Antonis D., 799

Lahav, Ori

One-Step Ambient Temperature Ferrite Process for Treatment of Acid Mine Drainage Waters, 460

Lahouar, Samer

see Loulizi, Amara, 1294

Lai, Fu-Hsiung

see Sample, David J., 1385

Lai, Fu-hsiung, P.E.

see Fan. Chi-Yuan, P.E., 718

Lai, Meng-Hui

Airborne Bacteria Control under Chamber and Test-Home Conditions, 466

Lai, Wen-Jiun

see Lin. Chang, 409

Lai, Xu

Effects of Velocity Head and Momentum Exchange on Critical Stable Sectional Area of Downstream Throttled Surge Tank, 283

Lai, Yong G.

Nonhydrostatic Three-Dimensional Method for Hydraulic Flow Simulation. II: Validation and Application, 713

Nonhydrostatic Three-Dimensional Model for Hydraulic Flow Simulation. I: Formulation and Verification, 712

Lai, Yuanming

Nonlinear Thermal Analysis for Qing-Tibet Railway Embankments in Cold Regions, 126

Study of Methods to Control Frost Action in Cold Regions Tunnels, 124

see Wu, Yaping, 386

Lajoie, C. A.

Comparison of Bacterial Bioluminescence with Activated Sludge Oxygen Uptake Rates during Zinc Toxic Shock Loads in a Wastewater Treatment System, 546

Lalit, Vikram

see Domer, Bernd, 1149

Lam, Angus C. C.

see Yam, Michael C. H., 1084

Lam, Ignatius P.

see Law, Hubert K., 633

Lam, S. S. E.

Drift Capacity of Rectangular Reinforced Concrete Columns with Low Lateral Confinement and High-Axial Load. 1156

Lam, Steve Y. W.

Geometric Modeling Systems for Construction Surveying of Highway Tunnels, 1279

Lam Tar

see DesRoches, Reginald, 92

Lam, William H. K.

see Ge, Y. E., 1314

see Lee, Jodie Y. S., 1306

see Tang, Y. F., 1315

Lamarre, Pierre

see Bennis, Saad, 747

Lambert, Eloi

see Tabet-Aoul, El-Hafid, 1431

Lambert, Martin F.

see Vítkovský, John P., 1423

Lamberti, Alberto

see Archetti, Renata, 1532

see Tomasicchio, Giuseppe R., 1453

Lan, Chang-Jen

Truck Speed Profile Models for Critical Length of Grade, 1332

Lan, Yuan-Jyh

see Hsu, Tai-Wen, 434

Landers, Jay

Saving the Bay, 1545

Landsea, Christopher

see Pielke, Roger A., Jr., 1531

Lane, Amy B.

see Theis, Thomas L., 1481

Lang, Jürgen

see Koussis, Antonis D., 799

Lansey, Kevin E.

see Eusuff, Muzaffar M., 1400

Laroulandie, Jérôme

see Meunier, Nathalie, 525

Larsen, Daniel

see Gentry, Randall W., P.E., 750

Larsson, Kenneth, P.E.

Pressure Relief, 1552

Lasdon, Leon S.

see Cai, Ximing, 1380

Lav, A. Hilmi

see Goktepe, A. Burak, 1351

Laval, Bernard

Reducing Numerical Diffusion Effects with Pycnocline Filter, 714

Law, Adrian Wing-Keung

Combined Particle Image Velocimetry/Planar Laser Induced Fluorescence for Integral Modeling of Buoyant Jets, 410

see Cheng, Nian-Sheng, 298

Law, Hubert K.

Evaluation of Seismic Performance for Tunnel Retrofit Project, 633

Law, Kincho H.

see Liu, David, 148

see Lynch, Jerome P., 49

Law, S. S.

Hybrid Beam-Column Element with End Frictional Joints, 344

see Zhu, X. Q., 292

Lawler, Desmond F.

see Brown, Phillip P., 469

Lazar, Sitvanit Shmueli

see Polus, Abishai, 1344

Le Bellégo, Caroline

Coupled Mechanical and Chemical Damage in Calcium Leached Cementitious Structures, 321

Le Cloirec, Pierre

see Subrenat, Albert, 569

Le Diouron, Thomas

Control of Wind-Induced Self-Excited Oscillations by Transfer of Internal Energy to Higher Modes of Vibration. I: Analysis in Two Degrees of Freedom, 330

Control of Wind-Induced Self-Excited Oscillations by Transfer of Internal Energy to Higher Modes of Vibration. II: Application to Taut Cables, 340

LeCain, Gary D.

see Lu, Ning, 679

Lecce, Maura

Lap Splice Steel Connections with Stainless Steel Nails, 1206

Lechte, P.

see Ibrahimi, F., 563

Lee, C. P.E.

Flexural Design of Reinforced Concrete Frames by Genetic Algorithm, 1159

Lee, C. F.

see Zhang, L. Q., 431

Lee, D. J.

see Annadurai, G., 511

Lee, Der-Her

see Juang, C. Hsein, 584

Lee, Duu-Jong

see Tay, Joo-Hwa, 1030

Lee, George C.

see Liu, Wei, 138

Lee, Hosin "David", P.E.

see Obadat, M., 48

Lee, How Ming

Plasma-Assisted Process for Removing NO/NO, from Gas Streams with C₂H₄ as Additive, 537

Lee, Hsiang Yi

Visibility Effectiveness of Hemisphere and Corner Cube Retroreflective Pavement Markers on Curved Roads, 1292

Lee, Hyung-Joo

see Lee, In-Mo. 677

Lee, In-Mo

Evaporation Theory for Deformable Soils, 677

Lee, In-Won

see Jung, Hyung-Jo, 1168

Lee, Jodie Y. S.

Levels of Service for Stairway in Hong Kong Underground Stations, 1306

Lee, Jong S.

see Reza, Farhad, P.E., 1018

Lee, Jong Sung

see Sohn, Jungyul, 1378

Lee, Joong Gwang

Estimation of Urban Imperviousness and its Impacts on Storm Water Systems, 1418

Lee, Junbok

Comparative Performance Evaluation of Tele-Operated Pipe Laying, 201 Lee, Junhwan

Estimation of Load Capacity of Pipe Piles in Sand Based on Cone Penetration Test Results, 617

see Paik, Kyuho, 607

Lee, Kwang-Myong

see Kim, Tae-Hoon, 1201 see Kim, Tae-Hoon, 1202

Lee, L. Y.

see Ong, S. L., 448

Lee, P. K. K.

see Chen, Z. H., 37

see Li. L., 20

Lee, Peter Kai Kwong

see Yuan, Jian-Xin, 26

Lee, Sangvoub

Predictive Tool for Estimating Accident Risk, 246

Lee, Seng Lip

see Swaddiwudhipong, Somsak, 1029

Lee, Seung Woo

Effects of Excessive Pavement Joint Opening and Freezing on Sealants, 1336

Lee, Seung Y.

Reliability of Frame and Shear Wall Structural Systems. I: Static Loading, 1108

Reliability of Frame and Shear Wall Structural Systems. II: Dynamic Loading, 1109

Lee, Sung C.

New Design Rule for Intermediate Transverse Stiffeners Attached on Web Panels, 1243

Lee, T. T.

see Rezaur, R. B., 813

Lee, X.

see Chang, C. S., 421

Lee, Y. Y.

Vibration of Timoshenko Beams with Internal Hinge,

Légeron, Frédéric

Uniaxial Confinement Model for Normal- and High-Strength Concrete Columns, 1110

Lei, G. H.

see Ng, Charles W. W., 644

Lei, Peng Ju

see Qu, Jiu-Hui, 445

Leissa, A. W.

see McGee, O. G., 372

Evaluation of Leaching Tests for Cement Based Immobilization of Hazardous Compounds, 519

Leitch, Kenneith R.

see Jáuregui, David V., 95

Lekha, K. R.

Consolidation of Clays for Variable Permeability and Compressibility, 675

Lema, J. M.

see Mosquera-Corral, A., 540

Lemberg, Beth

see Thurston, Hale W., 1417

Leon, Roberto T.

see DesRoches, Reginald, 92

Leonard, John D., II

see de Oliveira, Marcelo G. Simas, 1284

see Oh, Jutaek, 1338

Leonenko, Y.

see Vinogradov, O., 352

Leong, E. C.

see Rezaur, R. B., 813

Leong, K. W.

see Karunaratne, G. P., 659

Leoni, Graziano

see Dezi, Luigino, 100

Lesaffre, B.

see Hartani, T., 890

Lesko, J. J.

see Karbhari, V. M., 182

Leung, Andrew Y. T.

see Shen, Hui-Shen, 330

Leung, C. F.

Behavior of Pile Groups Subject to Excavation-Induced Soil Movement, 583

Lever, James H.

Upstream Effects of Cazenovia Creek Ice-Control Structure, 117

Levitan, Marc L. see Pine, John C., 1541

Lew, Yoke-Lian

see Hassim, S., 238

Lewis, Gary L., ed. Guidelines for Forensic Engineering Practice, 1620

Life Cycle Modeling of Corrosion Affected Concrete Structures-Initiation, 1032

Life-Cycle Modeling of Corrosion-Affected Concrete Structures: Propagation, 1158

see Zheng, J. J., 1022

Li, C. S.

see Lam, S. S. E., 1156

Li, Chi-Han

see Den, Walter, 516

Li, Chunxiang

Active Multiple Tuned Mass Dampers: A New Control Strategy, 1178

Spline Semidiscretization Analysis for Orthotropic Plates and Shells, 290

Li, Guo-Qiang

Experimental Studies on the Properties of Constructional Steel at Elevated Temperatures, 1254

Li. Hebi

Field Measurements and Modeling of Two-Stage Biofilter that Treats Odorous Sulfur Air Emissions,

Li. Heng

Internet-Based Geographical Information Systems System for E-Commerce Application in Construction Material Procurement, 275

see Lu, Ming, 244

see Ogunlana, Stephen O., 257

Li, Huihua

see Tay, Joo-Hwa, 476

Li, J. B.

see Huang, Y. F., 1472

Li, J. Y.

see Xu, Z. X., 807

Li, Jian-Bing

Numerical Simulation of Dual-Phase Vacuum Extraction to Remove Nonaqueous Phase Liquids in Subsurface, 1473

see Magsood, Imran, 1471

Li, Jianchun

see Widiaia, Joko, 437

Li, Jianjun

see Lai, Yuanming, 126

Li, Jianzhong

Natural Frequency of Railway Girder Bridges under Vehicle Loads, 93

Li. Jie

Numerical Analysis of Neutron Moisture Probe Measurements, 13

Li, Jing

see Kurdila, Andrew J., 55

Li, Jingyang

see Hsieh, William W., 1394

Li, Kefei

see Steffens, Alexander, 289

Li, L.

Failure Process of Granite, 20

Li. Lanhai

see Simonovic, Slobodan P., 1412

Li. Lei

see Deng, Zongcai, 360

Li. Maoxin

see Nogami, Toyoaki, 657

Li, Ming-Fei

see Li, Guo-Qiang, 1254

Li, Q. M

Perforation Thickness and Ballistic Limit of Concrete Target Subjected to Rigid Projectile Impact, 400

Li. O. S

Analytical Solution for Fluid-Structure Interaction in Liquid-Filled Pipes Subjected to Impact-Induced Water Hammer, 432

Vibratory Characteristics of Timoshenko Beams with Arbitrary Number of Cracks, 427

see Luo, Q. Z., 1098

Li, Qingbin

see Deng, Zongcai, 360

Li. X.

see Pilakoutas, K., 1197

Li. X. S.

see Ming, H. Y., 611

Li, Xiangdong

see Wong, Coby S. C., 1462

Li, Xianting

see Ren, Hongze, 70

Li. Y. S.

see Chen, Y., 1457

Li. Ying

Energy Balance Model for Breaking Solitary Wave Runup, 1433

Li. Zongjin

see Jin, Xianyu, 1013

Lian, Yanging

Comparison of Risk Calculation Methods for a Culvert, 707

Liao, H. J.

Uplift Behavior of Blade-Underreamed Anchors in Silty Sand, 632

Liehr, Sarah K.

see Chaiprapat, Sumate, 530

Lien, Hui-Pang

Sediment Concentration Distribution of Debris Flow, 795

Lifvergren, Thomas

see Suèr, Pascal, 494

Liggett, James A.

see Vítkovský, John P., 1423

Ligteringen, H.

see van der Molen, W., 1429

Likar, Jakob

Time-Dependent Back Analysis of a Multianchored Pile Retaining Wall, 586

Likos, William J.

Measured and Estimated Suction Indices for Swelling Potential Classification, 642

Lim, C. W.

Buckling of Vertical Cylindrical Shells under Combined End Pressure and Body Force, 379

Lim, J. K.

see Leung, C. F., 583

Lim, L. H.

see Karunaratne, G. P., 659

Lim, Siow-Yong

see Yang, Shu-Qing, 699

Limongelli, M. P.

see Benzoni, G., 74

Lin, Chang

Convection Velocity of Vortex Structures in the Near Wake of a Circular Cylinder, 402

Simultaneous Particle Image Velocimetry and Laser Doppler Velocimetry Measurements of Periodical Oscillatory Horseshoe Vortex System near Square Cylinder-Base Plate Juncture, 409

Lin

2003 ASCE TRANSACTIONS

Lin, Deng-Fong

see Chen, Dar-Hao, 1043

see Chen, Dar-Hao, 1050

see Luo, Huan-Lin, 1485

Lin. Fred

Estimating Safety Benefits of Road Improvements: Case Based Approach, 1329

Lin, Ken-Yu

see Soibelman, Lucio, 251

Lin, Kuei-Pin

see Hsu. Tai-Wen. 434

Lin, Ping-Sien

see Juang, C. Hsein, 584

Lin, S.-C.

see Lajoie, C. A., 546

Lin, Sheng H.

Hydrofluoric Acid Recovery from Waste Semiconductor Acid Solution by Ion Exchange, 498

Lin, Tsair-Fuh

see Yen, Hung-Kl, 1474

Lin, Wen-Hsiung

Earthquake Response of Elastic Single-Degree-of-Freedom Systems with Nonlinear Viscoelastic

Study on Damping Reduction Factor for Buildings under Earthquake Ground Motions, 1106

Lin, Yung-Teh

see Shih, Li-Hsing, 1470

Lin, Zhuhai

Concrete Uniaxial Tensile Strength and Cylinder Splitting Test, 1151

Lindell, Michael K.

Assessing Community Impacts of Natural Disasters.

Linden, Karl G.

see Bolton, James R., 467

Ling, Hoe I.

Centrifugal Modeling of Seismic Behavior of Large-Diameter Pipe in Liquefiable Soil, 685

Finite Element Studies of Asphalt Concrete Pavement Reinforced with Geogrid, 371

Pressure-Level Dependency and Densification Behavior of Sand through Generalized Plasticity Model,

Ling, S.

see Chua, D. K. H., 271

Lira, H. L.

see Amorim, L. V., 550

Liston, Kathleen

see Hastings, Jessica, 921

Little, D. N., P.E.

see Kim, Yong-Rak, 969

Liu, Change

see Chen, Jack, 47

Liu, Dajin

Structural Analysis of Combined Footing on Piles, 1494

Liu, David

Engineering Information Service Infrastructure for Ubiquitous Computing, 148

see Au, F. T. K., 75

Liu, Guiwen

see Shen, Qiping, 252

Liu, Haibin

see Davidson, Rachel A., 1522

Liu, Huabei

see Ling, Hoe I., 371

see Ling, Hoe L, 377

see Ling, Hoe I., 685

Liu, Hui-Juan

see Ou, Jiu-Hui, 445

Modeling Water and Sulfuric Acid Transport through Coated Cement Concrete, 331

Exact Solution for Dynamic Response of Multi-Degree-of-Freedom Bilinear Hysteretic Systems,

Liu, Jin M.

see Lin, Sheng H., 498

Liu, Jinyuan

see Sadek, Samer, 135

Liu, Liang Y.

see Ho, S. Ping, 199

see Soibelman, Lucio, 251

Liu, M., P.E.

see Wang, G., 69

Liu, M. D.

General Strength Criterion for Geomaterials, 36

Volumetric Deformation of Natural Clays, 35

Liu, Martin D.

Modeling Compression Behavior of Structured Geomaterials, 31

Liu, Ming, P.E.

see Nassif, Hani H., P.E., 83

Liu, Mingsheng, P.E.

see Joo, Ik-Seong, 68

Liu, Philip L.-F.

see Cowen, Edwin A., 403

Liu, S. Chi

see Chang, Peter C., 996

Liu, Shizhong

see Wu, Yaping, 386

Liu, Suo-Xiang

see Qu, Jiu-Hui, 445

AUTHOR INDEX

Lovejoy

Liu, Wei

Object-Oriented Modeling of Structural Analysis and Design with Application to Damping Device Configuration, 138

Liu, Wen-Cheng

Modeling of Flow Resistance in Mangrove Swamp at Mouth of Tidal Keelung River, Taiwan, 1437

Liu, Yahua

see Young, Ben, 1102

Liu, Yanxia

see Li, Chunxiang, 1178

Liu, Yu

see Soh, Chee Kiong, 1005

Liu, Yu-Fen

see Wu, Chao-Hsiung, 487

Liu, Yurong

Finite-Element Modeling of Skid Resistace Test, 1321

see Fwa, T. F., 1333

Liu, Z. Q.

see Lam, S. S. E., 1156

Liu, Zhen-Shu

Thermal Treatment for Incinerator Ash: Evaporation and Leaching Rates of Metals, 473

Liu, Zhenyu

see Li, Chunxiang, 290

Livneh, Moshe

see Polus, Abishai, 1344

Lo, Chiu-Yueh

see Chen, Liang-Chien, 1266

Lo, H. P.

see Fu, W. K., 241

Lo, Irene M. C. Lo

Effect of Soil Stress on Cadmium Transport in Saturated Soils, 1480

Lo. Irene M.C

Innovative Waste Containment Barriers for Subsurface Pollution Control, 1466

Loan, Abid, P.E.

Under Cover, 1592

Chuer Cover, 13

Lobbrecht, A. H. see Bhattacharya, B., 1421

Loehr, J. Erik

see Bowders, John J., 599

see Sanford Bernhardt, Kristen L., 852

Loehr, Raymond C.

Long-Term Landfill Primary and Secondary Leachate Production, 682

see Fairey, Julian L., 1482

see Tugun, Hazim, 472

Loewenthal, Richard E.

see Lahav, Ori, 460

Loferski, Joseph R. see Smart, Jason V., 1514

Loftin, K.

see Adams, C., 8

Logman, Haitham

see Khoury, Joseph A., 1355

Lohani, Vinod K.

see Bosch, Darrell J., 1390

Loizos, A.

Dynamic Stiffness Modulus for Pavement Subgrade Evaluation, 1335

Lokesh, K. S.

see Bejankiwar, Rajesh S., 567

Long, James W., III, P.E.

see Lovell, Scott A., P.E., 1563

Longman, Richard W.

see Luş, Hilmi, 336

see Luş, Hilmi, 337

Look, Horace

see Abdulhai, Baher, 1327

Looney, Brian B.

Removal of Mercury from Low-Concentration Aqueous Streams using Chemical Reduction and Air Stripping, 539

Loper, James, P.E.

Flying High, 1599

Lopes, Joao E. G.

see Barros, Mario T. L., 1397

Lopes, Vicente L.

see Bravo-Espinosa, Miguel, 773

López, J. L.

see Saavedra, I., 749

López-Luque, R.

see Pulido-Calvo, I., 886 see Pulido-Calvo, I., 904

. .

Lorenc, Steven J. see Lee, Junbok, 201

Lou, Menglin

Modal Perturbation Method and its Applications in Structural Systems, 385

Loulizi, Amara

Optimization of Ground-Penetrating Radar Data to Predict Layer Thicknesses in Flexible Pavements, 1294

Lounic 7

see Morcous, G., 111

Lourenço, Paulo B.

see Orduña, Agustín, 1218

Love, Adam H.

Reconstructing Contaminant Deposition in a San Francisco Bay Marina, California, 522

Love, Nancy G.

see Holbrook, R. David, 1492

Love, Peter E. D.

Benchmarking, Benchaction, and Benchlearning: Rework Mitigation in Projects, 956

Lovejoy, Steven C., P.E.

Determining Appropriate Fatigue Inspection Intervals for Steel Bridge Members, 78

Lovell

Lund, Jay R.

see Ngamchai, Somnuk, 1345

see Draper, Andrew J., 1395

Lovell, Scott A., P.E.

Lovell, David J.

Lund, Le Val. ed.

A Higher Profile, 1563

Lifeline Performance of El Salvador Earthquakes of January 13 and February 13, 2001, 1624

2003 ASCE TRANSACTIONS

Lowe, M. J. S. see Beard, M. D., 986

Lowe, Scott A., P.E.

Luo, Huan-Lin

Omission of Critical Reynolds Number for Open Channel Flows in Many Textbooks, 1064

Evaluation of Color Changes in Sewage Sludge Ash Brick by using Image Analysis Method, 1485 see Chen, Dar-Hao, 1050

Lowes, Laura N.

Luo, Q. Z.

Modeling Reinforced-Concrete Beam-Column Joints Subjected to Cyclic Loading, 1251

Calculation of Moments on Top Slab in Single-Cell Box Girders, 1098

Lu. Feng

Luş, Hilmi

see Fu, Kuan-Chen, 90

Constructing Second-Order Models of Mechanical Systems from Identified State Space Realizations. Part I: Theoretical Discussions, 336

Lu, Hsin-Chung Influence of Different Cleaning Conditions on Cleaning Performance of Pilot-Scale Pulse-Jet Baghouse, 538

Constructing Second-Order Models of Mechanical Systems from Identified State Space Realizations. Part II: Numerical Investigations, 337

Lu, Ming

Lutes, Loren D.

HKCONSIM: A Practical Simulation Solution to Planning Concrete Plant Operations in Hong Kong, 259 Resource-Activity Critical-Path Method for Construc-

Optimal S-N Testing for Variable-Amplitude Fatigue Applications, 1166

tion Planning, 244 Simplified Discrete-Event Simulation Approach for Construction Simulation, 258

see Roberts, Matthew W., 384

see Tang, S. L., 958

Luyckx, Gert

Lu, Ning

see Berlamont, Jean E., 765 Lyamin, A. V.

Percolation-Induced Heat Transfer in Deep Unsaturated Zones, 679

see Merifield, R. S., 602

see Likos, William J., 642

Lyamin, Andrei V.

Lu, Shu-Jen

see Augarde, Charles E., 597

see Liu, Zhen-Shu, 473 Lu, X. L.

Lynch, Jerome P.

see Yang, Z., 1105

Design of Piezoresistive MEMS-Based Accelerometer for Integration with Wireless Sensing Unit for Structural Monitoring, 49

Lu. Xilin see Wu, Xiao-Han, 1094 Lytton, R. L., P.E. see Kim, Yong-Rak, 969

Lu, Xin Zheng

Ma, C. W. see Chu, W., P.E., 501

see Soh, Chee Kiong, 1005

Ma. Shuo

see Brownjohn, James Mark William, 89

see Zhang, Ray Ruichong, 378

Lu, Yong Lucko, Gunnar

Ma, Y. F.

Constructability Considerations for Balanced Cantilever Construction, 1499

Lui, Mingsheng, ed.

see Lim. C. W., 379 Maadani, O.

Architectural Engineering 2003 - Building Integration Solutions, 1607

see Chidiac, S. E., 1007

Luk, James Y. K.

Macchione, Francesco

Comparing Driver Information Systems in a Dynamic Modeling Framework, 1288

Practical Aspects in Comparing Shock-Capturing Schemes for Dam Break Problems, 711

Reducing Car Travel in Australian Cities: Review

Machemehl, Randy

see Kockelman, Kara M., 1312 Report, 1372

Lum, K. M.

Mackenzie-Helnwein, Peter

Impacts of Red Light Camera on Violation Characteris-

tics, 1361

Computational Analysis of Quality Reduction during Drying of Lumber due to Irrecoverable Deformation. Algorithmic Aspects and Practical Application,

Lumm, Jim see Khoury, Oscar A., P.E., 1551

see Hanhijärvi, Antti, 391

Luna, Ronaldo see Zheng, Wei, 450

Maclean, Brian see Obadat, M., 48

AUTHOR INDEX

MacLeod, C. W.

see Allouche, E. N., 248

Macomber, John D.

IT Strategy for Construction Compaines: A Pragmatist's Vision, 923

Madanat, Samer M.

see Guillaumot, Vincent M., 854

see Prozzi, Jorge A., 1359

Madi, Marwan

see Kockelman, Kara M., 1312

Madsen, Ole S.

see Jiménez, José A., 1435

Magnusson, R.

see Bergström, 119

Magoon, Orville, ed.

see Ewing, Lesley, ed., 1646

see Mohan, Ram K., ed., 1604

Maguire, Lynn A.

Interplay of Science and Stakeholder Values in Neuse River Total Maximum Daily Load Process, 1403

Mahar, Pooran S.

Computing Inlet Pressure Head of Multioutlet Pipeline,

see Singh, Rajesh P., 1401

Mahmassani, Hani

see Khoury, Joseph A., 1355

Mahmassani, Hani S.

see Kaysi, Isam A., 1307

Mahzoon, M.

see Bahar, O., 418 Maier, Holger R.

Ant Colony Optimization for Design of Water Distribution Systems, 1399

Maierhofer, Christiane

Nondestructive Evaluation of Concrete Infrastructure with Ground Penetrating Radar, 995

Mailhol, Jean-Claude

Validation of a Predictive Form of Horton Infiltration for Simulating Furrow Irrigation, 903

Mailhot, Alain

see Pelletier, Geneviève, 1391

Mailvaganam, N. P.

see Chidiac, S. E., 1007

Main, I. G.

see Colombo, Ing. S., 994

Makris, Dimitrios

see Sgouridis, Sgouris P., 1447

Makris, Nicos

Plastic Torsional Buckling of Cruciform Compression Members, 359

Makropoulos, C. K.

Fuzzy Logic Spatial Decision Support System for Urban Water Management, 1386

Maksimovic, C.

see Makropoulos, C. K., 1386

Malano, Hector M.

see Khanna, Manoj, 893

see Khanna, Manoj, 894

Malavasi, Stefano

Hydrodynamic Loading on River Bridges, 781

Mariani

Maleyeff, John

see Ball, Daniel R., 940

Malguzzi, Piero

see Koussis, Antonis D., 799

Malkawi, Abdallah I. Husein

Thermal-Structural Modeling and Temperature Control of Roller Compacted Concrete Gravity Dam, 1054

Maloney, Stephen W.

see Doppalapudi, Rajesh B., 465

Maloney, William F.

Labor-Management Cooperation and Customer Satisfaction, 216

Malvar, L. J.

Bond between Carbon Fiber Reinforced Polymer Bars and Concrete. I: Experimental Study, 174

Environmental Effects on the Short-Term Bond of Carbon Fiber-Reinforced Polymer (CFRP) Composites, 163

Manbeck, Harvey B.

see Wisniewski, Benjamin, 61

Mander, John B.

see Holden, Tony, 1114

Mang, Herbert A.

see Lackner, Roman, 328

see Lackner, Roman, 329

see Pichler, Christian, 387

Mannering, Fred

see Wang, Yinhai, 1328

Manning, Shayne, P.E.

Work of Art, 1576

Manoliadis, Odysseus G.

see Tsolas, Ioannis E., 463

Manous, Joe D., Jr.

Projected Sulfate Redistribution as Impacted by Lake Level Stabilization Scenarios: Devils Lake, North Dakota, 1416

Manvi, Ram

Decision Tree Assessment of Challenging Technologies for Mission to Europa, 51

Maqsood, Imran

Inexact Multiphase Modeling System for the Management of Subsurface Contamination under Uncertainty, 1471

Marchand, Jacques

see Pouliot, Nadia, 966

Marelius, Fredrick

Phenomenological Characterization of Vortex Induced Scour, 793

Mariani, T. F., P.E.

Center of Attention, 1564

Marini

2003 ASCE TRANSACTIONS

Marini, Alessandra

Nonlinear Analysis as a Diagnostic Tool for the Strengthening of an Old Wooden Dome, 1223

Mariño, Miguel A.

see Moradi-Jalal, Mahdi, 875

Marion, Andrea

Parameter Estimation of the Transient Storage Model for Stream-Subsurface Exchange, 496

Marish, S.

see Mirlas, V., 866

Markus, Momcilo

Uncertainty of Weekly Nitrate-Nitrogen Forecasts using Artificial Neural Networks, 474

Marques, Afonso Celso Moruzzi

Composite Compressibility Model for Municipal Solid Waste, 614

Marra, Rose M.

see Boothby, Thomas E., 67

Marrone, Alexis M.

see Walter, M. Todd, 822

Marti, Peter

see Foster, Stephen J., 1196

Martin, A. Epps

Use of the Asphalt Pavement Analyzer and Repeated Simple Shear Test at Constant Height to Augment Superpave Volumetric Mix Design, 1346

Martin, Alastair J.

see Walker, Sharon A., 1451

Martin, Amy Epps

Pavement Response and Rutting for Full Scale and Scaled APT, 1337

Martin, James R., II

see Wissmann, Kord J., 600

Martin, Joseph P.

see Qubain, Bashar S., 593

Martinelli, Enzo

see Faella, Ciro, 1085

Martinez, Christopher J.

Hydraulic Analysis of Orlando Easterly Wetland, 508

Martinez, Mark

see Titi, Hani, P.E., 1297

Martínez-Madrid, Miguel

see Torres-Acosta, Andrés A., 1002

Maru, Savita

Effect of Creep and Shrinkage on RC Frames with High Beam Stiffness, 1136

Marulanda, Camilo

see Hashash, Youssef M. A., 626

Marx, Brian D.

see Pine, John C., 1541

Marzęda, Joanna

Biparametric Models for Elastic Wedge Foundation, 293

Marzouk, Mohamed

Object-Oriented Simulation Model for Earthmoving Operations, 217 Mas, Diane

see Ahlfeld, David, P.E., 792

Masad, Eyad, ed.

see Tutumluer, Erol, ed., 1633

Masada, Teruhisa

see Sargand, Shad M., 664

Mashnad, Mehedy

see Sobhan, Khaled, 553

see Sobhan, Khaled, 638

Mason, Luciano B.

see Hardy, Thomas A., 1439

Mass, Marvin

see Borg, Robert F., P.E., 1507

Massicotte, Bruno

see Chicoine, Thierry, 1099

Masters, Forrest

Non-Gaussian Simulation: Cumulative Distribution Function Map-Based Spectral Correction, 433

Masuda, H.

see Sakumoto, Y., 1235

Masuda, Toru

see Tatsuoka, Fumio, 622

Matamoros, Adolfo B.

Drift Limits of High-Strength Concrete Columns Subjected to Load Reversals, 1115

Matešić, Leo

Strain-Rate Effect on Soil Secant Shear Modulus at Small Cyclic Strains, 630

Mathews, J. D.

see Rafiq, M. Y., 142

Mathur, B. S.

see Gaur, Murari Lal, 829

Matsui, Chiaki

see Hitaka, Toko, 1141

Matsui, Koji

see Kuwamura, Hitoshi, 1230

Matsushima, T.

see Chang, C. S., 421

Mattila, Kris G.

Comparison of Linear Scheduling Model and Repetitive Scheduling Method, 204

Mavromatis, Stergios

Analytical Model to Determine the Influence of Horizontal Alignment of Two-Axle Heavy Vehicles on Upgrades, 1353

May, Richard

see Butler, David, 721

May, Richard W. P.

Preventing Sediment Deposition in Inverted Sewer Siphons, 722

May, Roger

see Woods, Eddie, 1603

Mayo, Daniel P.

see Mayo, Richard E., P.E., 1496

Mayo, Richard E., P.E.

100-Ton (890 kN) Rock Anchor Pullout Test, 1496

Mazi, Katerina

see Koussis, Antonis D., 799

Mazurek, K. A.

see Rajaratnam, N., 715

Mazzotti, Claudio

Nonlinear Creep Damage Model for Concrete under Uniaxial Compression, 398

McAfee, Mark, ed.

Principles and Practice of Engineering: Architectural Engineering Sample Questions and Solutions, 1631

McCabe, Brenda

see Nasir, Daud, 256

McCall, Raymond

see Molavi, Jeffrey M., 62

McCay, Deborah French

see Sankaranarayanan, S., 1440

McConochie, Jason D.

see Hardy, Thomas A., 1439

McCormick, G.

Optimal Pump Scheduling in Water Supply Systems with Maximum Demand Charges, 1413

McCormick, Shane

Shell of Steel, 1561

McCorquodale, J. Alex

see Haralampides, Katy, 716

McCoy, Benjamin J.

see Başağaoğlu, Hakan, 510

McCreery, Charles S.

see Wei, Yong, 1434

McCuen, Richard H.

Smart Growth: Hydrologic Perspective, 1072

see Azari, Haleh, 1347

McDaniel, Cole C.

Cyclic Testing of Built-Up Steel Shear Links for the New Bay Bridge, 1163

McEnroe, Bruce M.

see Young, C. Bryan, 832

McEwan, I.

see Aberle, J., 698

McFadden, P. D.

see Neild, S. A., 1112

McGee, O. G.

Vibration of Plates with Constrained V-Notches or Cracks, 372

McGregor, James D., P.E.

The Case for Cleaning, 1546

McKinlay, Bruce, P.E.

Pushing the Envelope, 1556

McKinney, Daene C.

see Cai, Ximing, 1380

McLean, D. I.

see Peterson, S. T., 1096

McLean, S.

see Aberle, J., 698

McMahon, Gerard

Support of Total Maximum Daily Load Programs
Using Spatially Referenced Regression Models,

McManus, Kerry

see Gharehbaghi, Koorosh, 917

see Gharehbaghi, Koorosh, 918

McManus, P. S.

Damping in Cantilevered Traffic Signal Structures under Forced Vibration, 1121

McMullin, Kurt Michael

Steel Semirigid Column-Tree Moment Resisting Frame Seismic Behavior, 1205

McMullin, P. W.

CFRP Composite Connector for Concrete Members, 165

McNeil, Sue

see Amekudzi, Adjo, 1369

McNeill, Laurie S.

Degradation of Drinking Water Treatment Plant Infrastructure from Enhanced Coagulation, 856

McQuarrie, James P.

Secondary Benefits of Aquifer Storage and Recovery: Disinfection By-Product Control, 490

McRae, Stephen

Rehabilitation of Bridge Superstructures via the Addition of Girder Lines. I: Theoretical Considerations, 1510

Rehabilitation of Bridge Superstructures via the Addition of Girder Lines. II: Practical Considerations, 1511

Meadowcroft, lan C.

see Hall, Jim W., 1533

Meda, A.

Design and Construction of a Bridge in Very High Performance Fiber-Reinforced Concrete, 104

Meegoda, J. N.

see Aboobaker, N., 492

Meegoda, Jay N.

Waste Immobilization Technologies, 1467

Meghella, M.

see Conte, J. P., 430

Mehanny, Sameh S. F.

Seismic Damage and Collapse Assessment of Composite Moment Frames, 7

Mehmood, Arif

Application of System Dynamics in Car-Following Models, 1358

Mehregany, Mehran

see Mitchell, Jay S., 43

Mehrotra, Sandeep, P.E.

see Vokral, John, P.E., 1550

Mehta, Kishor C.

Guide to the Use of the Wind Load Provisions of ASCE 7-02, 1619

Mehta

2003 ASCE TRANSACTIONS

Mehta, Vishal K.

see Walter, M. Todd, 822

Mehta, Yusuf, P.E.

Evaluation of FWD Data for Determination of Layer Moduli of Payements, 962

Meier, Werner

Modeling the Effect of Water Diversion on the Temperature of Mountain Streams, 533

Mekik, Cetin

see Kutoglu, Hakan S., 1269

Melby, Jeffrey A.

see Kobayashi, Nobuhisa, 1452

Melchers, Robert E.

Probabilistic Model for Marine Corrosion of Steel for Structural Reliability Assessment, 1231

see Khennane, Amar, 169

Mele, Elena

Experimental Investigation on European Welded Connections, 1211

Melhem, Hani

Damage Detection in Concrete by Fourier and Wavelet Analyses, 345

Melhem, Hani G.

Prediction of Remaining Service Life of Bridge Decks using Machine Learning, 127

Wrapper Methods for Inductive Learning: Example Application to Bridge Decks, 132

Melville, Bruce W.

see Coleman, Stephen E., 783

Memari, Ali M.

Seismic Behavior of Curtain Walls Containing Insulating Glass Units, 63

Menad, Nourreddine

see Ecke, Holger, 493

Méndez, R.

see Mosquera-Corral, A., 540

Menduni, G.

see Bocchiola, D., 703

Menendez, Monica

see Lan, Chang-Jen, 1332

see Randolph, Dennis A., P.E., 949

Mentel, Brian

see Gibson, G. Edward, Jr., 959

Mentz, Karen H.

see Booth, Amy M., 507

Menzemer, Craig C.

see Xiao, Yugang, 1226

Mercier, Richard, ed.

see Zhang, Jun, ed., 1612

Merifield, R. S.

Three-Dimensional Lower Bound Solutions for Stability of Plate Anchors in Clay, 602

Mertz, D. R., P.E.

see Demitz, J. R., P.E., 79

Meschke, Günther

Numerical Modeling of Coupled Hygromechanical Degradation of Cementitious Materials, 327

Mesri, G.

Residual Shear Strength Mobilized in First-Time Slope Failures, 580

Messac, Achille

see Van Dessel, Steven, 57

see Van Dessel, Steven, 1232

Messner, John I.

see Thomas, H. Randolph, 1083

Meunier, Nathalie

Lead Removal from Acidic Solutions by Sorption on Cocoa Shells: Effect of Some Parameters, 525

Meyer, M.

see Adams, C., 8

Mia, Md. Faruque

Design Method of Time-Dependent Local Scour at Circular Bridge Pier, 737

Michaelides, Efstathios E.

see Feng, Zhi-Gang, 794

Michalowski, Radoslaw L.

Deformation Patterns of Reinforced Foundation Sand at Failure, 621

Triaxial Compression of Sand Reinforced with Fibers,

Michener, William K.

see Birkland, Thomas A., 1523

Miguel, George P.

see Walsh, Kenneth D., 1047

Mihelcic, James R.

see Li, Hebi, 524

Miles, J. C.

see Sisk, G. M., 143

Miller, Christopher M.

see Hassan, Kazi Z. A., 559

Miller, Eric J.

Evolution of Personal Travel in Toronto Area and Policy Implications, 1368

Miller, Richard

see Hastak, Makarand, 102

Milligan, Victor

Some Uncertainties in Embankment Dam Engineering, 652

Mills, Julie

Implementing an Inclusive Curriculum for Women in Engineering Education, 1077

Minchin, R. Edward, Jr.

Validation of Vibration-Based Onboard Asphalt Density Measuring System, 197

see Thomas, H. Randolph, 227

see Thomas, H. Randolph, 939

Minete, Enivaldo

see Bueno, Benedito de S., 555

Ming, H. Y.

Fully Coupled Analysis of Failure and Remediation of Lower San Fernando Dam, 611

Mingham, C. G.

see Qian, L., 764

Minor, Hans-Erwin see Brunella, Sandro, 693

Miralles, Lourdes

see Fernádez, Ana I., 475

Miranda, Eduardo

Dynamic Instability of Simple Structural Systems, 1255

Mirlas, V.

Method for Normalization of Soil Salinity Data, 866

Mirmiran, Amir

World Survey of Civil Engineering Programs on Fiber Reinforced Polymer Composites for Construction, 1073

see Hastak, Makarand, 102

see Naguib, Wassim, 422

Mirza, M. S.

see Morcous, G., 111

Mirzabozorg, H.

see Khaloo, Ali R., 99

Mishra, S. K.

see Bhunya, P. K., 825 Mishra, Srikanta, ed.

Groundwater Quality Modeling an Management Under Uncertainty, 1617

Mitani, Yasuhiro

see Xie, Mowen, 687

Mitchell, Denis

see Paterson, James, 1143

Mitchell, Jay S.

Examination of Bulge Test for Determining Residual Stress, Young's Modulus, and Poisson's Ratio of 3C-SiC Thin Films, 43

Mitchell, Jerry T.

Prayer in Disaster: Case Study of Christian Clergy, 1520

Miyazato, Shin-ichi

see Otsuki, Nobuaki, 1014

Mizumura, Kazumasa

Chloride Ion in Groundwater near Disposal of Solid Wastes in Landfills, 821

Side Outflow from Supercritical Channel Flow, 771

Mizuno, Kei

see Kim, Dae-Sik, 1370

Mlakar, Paul E., P.E.

The Pentagon Building Performance Report, 1629

The Pentagon Report, 1549

Moan, Torgeir

see Zha, Yufeng, 1101

Mobasher, B.

Micromechanical Modeling of Filament Wound Cement-Based Composites, 326 Mobasher, Barzin

see Tixier, Raphaël, 997

see Tixier, Raphaël, 998

Moghrabi, Mohamed S.

see Kaysi, Isam A., 1307

Mohamed, Sherif

Performance in International Construction Joint Ventures: Modeling Perspective, 267

Scorecard Approach to Benchmarking Organizational Safety Culture in Construction, 207

Mohammed, Tarek Uddin

Corrosion of Steel Bars in Cracked Concrete under Marine Environment, 1016

Mohan, Ram K., ed.

Advances in Coastal Structure Design, 1604

Mohan, S.

see Tom, V. M., 1305

Mohapatro, B. G.

see Dewaikar, D. M., 23

Mohareb, Magdi

Exact Finite Element for Nonuniform Torsion of Open Sections, 1107

Plastic Resistance of Pipe Sections: Upper Bound Solution, 1088

see Ozkan, Istemi Faruk, 1216

Mohri, Yoshiyuki

see Ling, Hoe I., 685

Mokwa, Robert L.

Rotational Restraint of Pile Caps during Lateral Loading, 656

Molavi, Jeffrey M.

A New Approach to Effective Use of Design Rationale in Practice, 62

Molenaar, Keith R.@rE

Construction Research Congress In Construction -Wind of Change: Integration and Innovation, 1611

Educational Needs Assessment for Design/Build Project Delivery, 1069

Engineering the Procurement Phase to Achieve Best Value, 928

Molez, Laurent

see Le Bellégo, Caroline, 321

Monaghan, J. J.

Fluid Motion Generated by Impact, 1456

Moncada, Alix T.

see Aguirre-Pe, Julián, 738

Monismith, Stephen G.

see Rueda, Francisco J., 701

Monroe, Murray

see Manning, Shayne, P.E., 1576

Moodi, Faramarz

Research into a Management System for Diagnosis, Maintenance, and Repair of Concrete Structures, 260

Moon, Sangho

see Briaud, Jean-Louis, 634

Moon, Seok I.

Sliding Mode Control of Cable-Staved Bridge Subjected to Seismic Excitation, 291

Moon, Young J.

Highway-Rail Quad Gate Operation Time by System Simulation of Dynamic Dilemma Zone, 1313

Moore, C. J.

see Sisk, G. M., 143

Moore, J. S.

see Chatterjee, Aveek N., 44

Moore, Tim O., II

see Seagren, Eric A., 536

Moo-Young, Horace

Physical and Chemical Properties of Recycled Tire Shreds for Use in Construction, 551

Moradi-Jalal, Mahdi

Optimal Design and Operation of Irrigation Pumping Stations, 875

Morcous, G.

Computer Assistance in Managing the Maintenance of Low-Slope Roofs, 150

Identification of Environmental Categories for Markovian Deterioration Models of Bridge Decks, 111

Morel, Paul

see Constans, Sophie, 1393

Morelli, Gemma

see Polettini, Alessandra, 566

Morelli, Maria Assunta

see Macchione, Francesco, 711

Moreno, L

see Muñoz-Perez, Juan J., 1436

Moreno, I.

see Muñoz-Perez, Juan J., 1436

Moreschi, Luis M.

see Singh, Mahendra P., 314

Moretti, Anthony A.,, P.E.

see Gruhn, Arthur W., P.E., 1587

Morgan, Barak E.

see Lahav, Ori, 460

Morgan, R.

see Karbhari, V. M., 182

Mori. Nobubito

Experimental Study of a Horizontal Jet in a Wavy Environment, 406

Statistical Modeling of Overtopping for Extreme Waves on Fixed Deck, 1445

Moritz, Scott L., P.E.

see Borg, Robert F., P.E., 1507

Morris, P. H.

Compressibility and Permeability Correlations for Fine-Grained Dredged Materials, 1448

Moschandreas, Demetrios J.

see Lai, Meng-Hui, 466

Moselhi, O.

Optimized Scheduling of Linear Projects, 272

Moselhi, Osama

Moses, Fred

see Marzouk Mohamed 217

Moser, David A., ed.

see Haimes, Yacov Y., ed., 1636

see Cohen, Harry, 107

Mosher, Reed L.

see Wissmann, Kord J., 600

Mosquera-Corral, A. Combined System for Biological Removal of Nitrogen

and Carbon from a Fish Cannery Wastewater, 540

Mottram, J. Toby see Mirmiran, Amir. 1073

Moujaes, Samir F., P.E.

Thermal Performance Analysis of Highly Reflective Coating on Residences in Hot and Arid Climates.

Mousa, Ragab M.

Simulation Modeling and Variability Assessment of Delays at Traffic Signals, 1304

see Hassan, Hossam F., 1322

Moyo, Pilate

see Brownjohn, James Mark William, 89

Constitutive Model for Static Liquefaction, 25

Mueller, Sherry A.

Removal of Oil Grease and Chemical Oxygen Demand from Oily Automotive Wastewater by Adsorption after Chemical De-emulsification, 1478

Muhunthan, Balasingam

see Hawlader, Bipul C., 21

Mukherjee, Amlan

see Rojas, Eddy M., 154

Mukhopadhyay, M.

see Pany, Chitaranjan, 322

Muller, Lois M., P.E.

see Zhou, Yun, P.E., 937

Müller, Wolfgang

see Schickert, Martin, 989

Mullur, Anoop A.

see Van Dessel, Steven, 1232

Munavalli, G. R.

Optimal Scheduling of Multiple Chlorine Sources in Water Distribution Systems, 1424

Water Quality Parameter Estimation in Steady-State Distribution System, 1392

Muñoz, José F.

see Tejeda, Ignacio, 802

Muñoz-Perez, Juan J.

Portable Meter System for Dry Weight Control in Dredging Hoppers, 1436

Murakami, Satoshi

see Yasuhara, Kazuya, 649

Muralidhar, K.

see Saha, A. K., 423

Murff, James D.

see Aubeny, Charles, 34

Murillo, Blake

Management Online: Mining the Full Potential of the Intranet, 931

Murray, Joseph F.

see Flick, Reinhard E., 1444

Murray, Susan, P.E.

see Nystrom, Halvard E., 938

Mursi, Mohanad

Strength of Concrete Filled Steel Box Columns Incorporating Interaction Buckling, 1145

Muscolino, G., P.E.

see Palmeri, A., P.E., 362

Muslu, Yilmaz

Effect of Lateral Water Surface Profile on Side Weir Discharge, 899

Mussa, Renatus, P.E.

Proposed Methodology of Optimizing Transitioning between Time-of-Day Timing Plans, 1330

Musser, Amy

see Kowalski, Władysław, 64

Muszynski, Larry C.

Composite Reinforcement to Strengthen Existing Concrete Structures against Air Blast, 167

Use of Composite Reinforcement to Strengthen Concrete and Air-Entrained Concrete Masonry Walls against Air Blast, 168

Mutasher, Saad A.

see Malkawi, Abdallah I. Husein, 1054

Muthusubramanyam, M.

Graphical Solution for Vertical Curve Computation, 1275

Nadauld, Justin

see Pantelides, Chris P., 170

Naden, Pamela S.

see Rameshwaran, Ponnambalam, 760

Nagavi, Razi S., P.E.

Nonlinear Behavior of Heavy Class Steel Truss Bridges, 1192

Nago, Hiroshi

see Mia, Md. Faruque, 737

Nagpal, A. K.

see Maru, Savita, 1136

Naguib, Wassim

Creep Analysis of Axially Loaded Fiber Reinforced Polymer-Confined Concrete Columns, 422

Naik, Tarun R.

Properties of Field Manufactured Cast-Concrete Products Utilizing Recycled Materials, 1008

Nair. S.

see AL-Qassab, M., 323

Najafi, Mohammad, ed.

New Pipeline Technologies, Security, and Safety, 1628

Najjar, Yacoub M., ed.

see Tutumluer, Erol, ed., 1633

Nakamura, K.

see Sakumoto, Y., 1235

Nakano, Masaaki

see Shi, Zihai, 1117

Nakhawa, Sageer Anjum

see Saber, Aziz, 855

Nalluri, Chandra

see Ota, Jose J., 723

Nanni, Antonio see Tumialan, i. Gustavo, 1185

Nanni, Antonio, P.E.

see Nystrom, Halvard E., 938

Nash, Robert, P.E.

see Glazier, Robert, 1567

Nasir, Daud

Evaluating Risk in Construction—Schedule Model (ERIC-S): Construction Schedule Risk Model, 256

Nassif, Hani H., P.E.

Model Validation for Bridge-Road-Vehicle Dynamic Interaction System, 83

Navarro-Cerpa, Alfredo see Sarcos-Portillo, Antonio, 96

Navon, R.

see Sacks, R., 129

Navon, Ronie

Can Labor Inputs be Measured and Controlled Automatically?, 247

Nazmul, I. M.

see Wang, C. M., 310

see Wang, C. M., 335

Neale, K. W.

see Bizindavvi, L., 171

Neale, Kenneth W.

see Mirmiran, Amir, 1073

Neary, V. S.

Numerical Solution of Fully Developed Flow with Vegetative Resistance, 343

Neighbors, J. Douglas, P.E.

see Choi, Ying-Kit, P.E., 974

Neild, S. A.

Nonlinear Vibration Characteristics of Damaged Concrete Beams, 1112

Nellor, Margaret

see Kuo, Jeff, 535

Nelson, E. James

see Noman, Nawajish Sayeed, 1419

Nelson, Emmitt J., P.E.

Safety as a Value in Engineering and Construction, 912

Nelson, Mark, P.E.

see Ryburn, David, 1565

Nema, A. K.

Multiobjective Risk Analysis and Optimization of Regional Hazardous Waste Management System, 1469

Neumann

2003 ASCE TRANSACTIONS

Neumann, David W.

Regression Model for Daily Maximum Stream Temperature, 523

Neuner, John

see Zhang, James S., 178

Neupane, Deepak

see Bowders, John J., 599

Neves, L. F. N.

see Silva, L. A. P., 1131

Newson, E.

see Price, A. D. F., 960

Ng, Charles W. W.

Laboratory Study of Loose Saturated and Unsaturated Decomposed Granitic Soil, 631

Performance of Long Rectangular Barrettes in Granitic Saprolites, 644

Ng, Pan L. P.

see Tang, Y. F., 1315

Ng. S. Thomas

Web-Based Centralized Multiclient Cooperative Contractor Registration System, 130

Ng. Tzevu

see Ibbs, C. William, 240

Ng, W. J.

see Ong, S. L., 448

Ngamchai, Somnuk

Optimal Time Transfer in Bus Transit Route Network Design using a Genetic Algorithm, 1345

Nguyen, T. Q.

see Hanna, Adel, 635

Ni, Jinren

Characteristics of Hyperconcentrated Sediment-Laden Flows, 442

Nichani, Sanjeev

see Besterfield, Glen, 94

Nicole, Jean-Francois

see Zhang, Burong, 1006

Nie, Jianguo

Steel-Concrete Composite Beams Considering Shear Slip Effects, 1132

Nie, Meng-Xi

Effect of Lateral Deflector on Outlet Cavity Lengths, 751

Nielsen, Chris

Parameters Affecting the Performance of Wetting and Drying in a Two-Dimensional Finite Element Long Wave Hydrodynamic Model, 758

Nigro, Emidio

see Faella, Ciro, 1085

Nihan, Nancy L.

see Wang, Yinhai, 1303

Nikora, V.

see Aberle, J., 698

Nishitani, Akira

Semiactive Structural-Control Based on Variable Slip-Force Level Dampers, 1174 Nitta, Yoshihiro

see Nishitani, Akira, 1174

Niu, Fujun

see Lai, Yuanming, 126

Noe, David C.

Case History of Damage to a School Building Caused by Differentially Heaving Bedrock, 1046

Nogami, Toyoaki

Consolidation of Clay with a System of Vertical and Horizontal Drains, 657

Dynamic Soil Stiffnesses at Side of Embedded Structures with Rectangular Base, 388

Nogueira, José A. D.

see Branco, Fernando J. F. G., 1031

Noman, Nawajish Sayeed

Improved Process for Floodplain Delineation from Digital Terrain Models, 1419

Nordheim, Erik V.

see Ammar, Abdurahman, 219

Nordstrom, Karl F.

Longshore Sediment Transport Rates on a Microtidal Estuarine Beach, 1427

Norris, Gary

see Ashour, Mohamed, 618

Nour, Said

see Sennah, Khaled, 87

Novak, John T.

see Holbrook, R. David, 1492

see Robinson, Sandra L., 470

see Zoeckler, Jeff R., 520

Novinson, T.

see Malvar, L. J., 163

Nowzartash, Farhood

see Mohareb, Magdi, 1107

Núñez, Darío

see Zenkner, Günther, 1591

Nystrom, Halvard E.

Financial Viability of Fiber-Reinforced Polymer (FRP) Bridges, 938

Oakland, Michael, P.E.@rm

see Aldrich, John, P.E., 1597

Obadat, M.

Full-Scale Field Evaluation of Microelectromechanical System-Based Biaxial Strain Transducer and Its Application in Fatigue Analysis, 48

Oberlender, Garold D.

see Trost, Steven M., 220

O'Callaghan, James

An Unconventional Approach, 1594

O'Carroll, Denis M.

see Theis, Thomas L., 1481

Ock, Jong H., P.E.

Lessons Learned from Rigid Conflict Resolution in an Organization: Construction Conflict Case Study, 948

Odabasi, A. Murat

see Ibbs, C. William, 240

Odeh, Mufeed

Discharge Rating Equation and Hydraulic Characteristics of Standard Denil Fishways, 728

Odijk, Dennis

Ionosphere-Free Phase Combinations for Modernized GPS, 1282

Ogaja, Clement

Detection of Wind-Induced Response by Wavelet Transformed GPS Solutions, 1271

Ogden, Fred L., P.E.

Peak Discharge Scaling in Small Hortonian Watershed, 806

Ogle, Steve M.

see Sato, Chikashi, 458

Oguniana, Stephen O.

System Dynamics Approach to Exploring Performance Enhancement in a Construction Organization, 257

Ogunro, Vincent O.

Relating Batch and Column Diffusion Coefficients for Leachable Contaminants in Particulate Waste Materials, 552

Oh, Byung Hwan

Failure Behavior and Separation Criterion for Strengthened Concrete Members with Steel Plates, 1200

Static and Fatigue Behavior of Reinforced Concrete Beams Strengthened with Steel Plates for Flexure, 1135

Oh, Jutaek

Vehicle Detection Using Video Image Processing System: Evaluation of PEEK VideoTrak, 1338

Ohtsu, Iwao

Flow Conditions of Undular Hydraulic Jumps in Horizontal Rectangular Channels, 790

Oiha, C. S. P.

Determination of Critical Head in Soil Piping, 748

Oka, Natasha

see Gavin, Henri, 1173

Okoroh, M. I.

Adding Value to Constructed Facilities: Facilities Management Hospitality Case Study, 1039

Okuyan, Mehmet N.

see Karakouzian, Moses, 1048

Oldring, Kath

see Doyle, James D., 491

Oleszkiewicz, J. A.

see Sears, K., 457

Olguín-Lora, Patricia

see Razo-Flores, Elías, 560

Oliver, Douglas

Whistle-Blowing Engineer, 1082

Olivero, María L.

see Aguirre-Pe, Julián, 738

Olmo, Ignacio Fernández

Leaching Behavior of Lead, Chromium (III), and Zinc in Cement/Metal Oxides Systems, 505

Olsen, Harold W.

see Likos, William J., 642

Olsen, N. R. B.

see Wilson, C. A. M. E., 770

Olsen, Nils Reidar B.

Three-Dimensional CFD Modeling of Self-Forming Meandering Channel, 731

Olson, Scott M.

Yield Strength Ratio and Liquefaction Analysis of Slopes and Embankments, 647

Oman, E. J.

see Yang, J., 513

Omenzetter, Piotr

see Brownjohn, James Mark William, 89

Ong, S. L.

Nitrogen Removal using Combined Ultracompact Biofilm Reactor-Packed Bed System, 448

Ooi, P. S. K.

Curvature and Bending Moments from Inclinometer Data, 18

Oorts, Katrien

see El-Sadek, Alaa, 864

Opricovic, Serafim

Fuzzy Multicriteria Model for Postearthquake Land-Use Planning, 1524

Opyrchał, L

Application of Fuzzy Sets Method to Identify Seepage Path through Dams, 753

Orduña, Agustín

Cap Model for Limit Analysis and Strengthening of Masonry Structures, 1218

Oreta, Andres W. C

Neural Network Modeling of Confined Compressive Strength and Strain of Circular Concrete Columns, 1138

O'Riordan, Owen C., P.E.

see Pisano, William C., P.E., 719

Oron, Gideon

see Enriquez, Carlos, 543

O'Rourke, THomas D.

see Abdoun, Tarek, 661

O'Rourke, Thomas D.

see Dobry, Ricardo, 662

Osidele, Olufemi O., Res. Assoc.

Coping with Uncertainty: A Case Study in Sediment Transport and Nutrient Load Analysis, 1411

Osterkamp, W. R.

see Bravo-Espinosa, Miguel, 773

O'Sullivan, Catherine

Modified Shear Spring Formulation for Discontinuous Deformation Analysis of Particulate Media, 374

Ota, Jose J.

Urban Storm Sewer Design: Approach in Consideration of Sediments. 723

Otsuki, Nobuaki

Influence of Recycled Aggregate on Interfacial Transition Zone, Strength, Chloride Penetration and Carbonation of Concrete, 1014

see Mohammed, Tarek Uddin, 1016

Ou, Chang-Yu

see Hsieh, Hsii-Sheng, 592

Overman, Aaron W.

see Kockelman, Kara M., 1312

Overton, Margery F.

see Judge, Elizabeth K., 1458

Ozbay, Kaan

Empirical Analysis of Relationship between Accessibility and Economic Development, 1373

Ozdemir, Orhan

see Armagan, Bulent, 527

Özger, Mehmet

see Şen, Zekai, 836

Ozkan, Istemi Faruk

Testing of Steel Pipes under Bending, Twist, and Shear, 1216

Ozmen-Ertekin, Dilruba

see Ozbay, Kaan, 1373

Pachakis, Dimitris

Ship Traffic Modeling Methodology for Ports, 1449

Packer, J. A.

see Kosteski, N., 1100

see Kosteski, N., 1130

Packer, Jeffrey A.

see Lecce, Maura, 1206

Packman, Aaron I.

see Marion, Andrea, 496

Paevere, Phillip J.

Load-Sharing and Redistribution in a One-Story Woodframe Building, 1209

Pagilla, Krishna R.

see Lai, Meng-Hui, 466

Paik, Kyuho

Behavior of Open- and Closed-Ended Piles Driven into Sands, 607

Determination of Bearing Capacity of Open-Ended Piles in Sand, 582

see Lee, Junhwan, 617

Painter, David E., P.E.

Paving Machine Improvments, 1339

Pala, Aysegul

Activated Carbon Addition to an Activated Sludge Model Reactor for Color Removal from a Cotton Textile Processing Watewater, 568

Palaneeswaran, Ekambaram

Knowledge Mining of Information Sources for Research in Construction Management, 218

see Ng, S. Thomas, 130

Palmer, M. E.

see Teague, T. L., 920

Palmer, Stuart R.

Framework for Undergraduate Engineering Management Studies, 1067

Palmeri, A., P.E.

State Space Formulation for Linear Viscoelastic Dynamic Systems with Memory, 362 Palmquist, Mark

see Abudayyeh, Osama, P.E., 214

Pan, J. K.

see Wong, W. G., 1027

Panda, Sudhindra Nath

see Panigrahi, B., 872

Pang, Y. C.

see Li, Heng, 275

Panigrahi, B.

Optimal Sizing of On-Farm Reservoirs for Supplemental Irrigation, 872

Pantelides, C. P.

see McMullin, P. W., 165

Pantelides, Chris P.

Repair of Cracked Aluminum Overhead Sign Structures with Glass Fiber Reinforced Polymer Composites. 170

Pantokratoras, Asterios

Vertical Penetration of Double-Diffusive Water Plumes Discharged Vertically Downward, 752

Pany, Chitaranjan

Wave Propagation in Orthogonally Supported Periodic Curved Panels, 322

Pao. Y .- H

Dynamic Bending Strains in Planar Trusses with Pinned or Rigid Joints, 320

Papanicolaou, A. N.

Cluster Evolution and Flow-Frictional Characteristics under Different Sediment Availabilities and Specific Gravity, 412

Papaspyrou, S.

Refined Solutions of Externally Induced Sloshing in Half-Full Spherical Containers, 429

Papay, Lawrence T., P.E.

see Gilbert, Paul. H., P.E., 845

Paquette, Jocelyn

Pseudo-Dynamic Testing of Unreinforced Masonry Building with Flexible Diaphragm, 1153

Parfitt, Kevin M., ed.

see Lui, Mingsheng, ed., 1607

Park, Amy

see Mattila, Kris G., 204

Park, Dae Gyun

see Oh, Byung Hwan, 1135

see Oh, Byung Hwan, 1200

Park, Dae-Wook

see Martin, A. Epps, 1346

Park, H.

see Choi, K., 1093

Park, Honggun

Microplane Model for Reinforced-Concrete Planar Members in Tension-Compression, 1118

Park, J. W.

Ultimate Strength of Ribbed Slab Composite Beams with Web Openings, 1164

AUTHOR INDEX

Pfeifer

Park, Jong S.

Lateral-Torsional Buckling of Stepped Beams, 1228

Park, Kwangho

Quantitative Assessment of Environmental Impacts on Life Cycle of Highways, 200

Park, Taesoon

Application of Construction and Building Debris as Base and Subbase Materials in Rigid Pavement, 1350

Parker, Gary

Effect of Floodwater Extraction on Mountain Stream Morphology, 784

Parra, Ender

see Yang, Zhaohui, 688

Parreira, A. B.

Influence of Portland Cement Type on Unconfined Compressive Strength and Linear Expansion of Cement-Stabilized Phosphogypsum, 556

Parrish, Shane

see Van Arsdale, Roy, 1518

Parsons, Simon A.

see Doyle, James D., 491

Parthan, S.

see Pany, Chitaranjan, 322

Partridge, Aaron

see Lynch, Jerome P., 49

Pascale, Giovanni

Nondestructive Assessment of the Actual Compressive Strength of High-Strength Concrete, 1015

see Bonfiglioli, Barbara, 975

Paschke, Ned, P.E.

A Visit to the Yangtze River and the Three Gorges Dam: Reflections from a People to People Ambassador Program in China, 915

Patel, V. C.

see Lai, Yong G., 712

see Lai, Yong G., 713

Paterson, James

Seismic Retrofit of Shear Walls with Headed Bars and Carbon Fiber Wrap, 1143

Patnaik, Anil K.

see Becque, Jurgen, 160

Patton, D.

see Tarefder, R. A., 980

Patton, Thomas K.

see Hickey, John T., P.E., 1420

Pauk, Volodymyr

see Marzęda, Joanna, 293

Paulson, Boyd

see Staub-French, Sheryl, 151

Paulson, Boyd C., Jr.

see Kim. Keesoo, 128

Paultre, Patrick

see Légeron, Frédéric, 1110

Pauwels, Valentijn R. N.

Water Table Profiles and discharges for an Inclined Ditch-Drained Aquifer under Temporally Variable Recharge, 869

Pavic, A.

see Reynolds, P., 1044

see Reynolds, P., 1045

Pavitt, T. C.

Interface Management within Construction: In Particular, Building Facade, 198

Peacock, Walter Gillis

Hurricane Mitigation Status and Factors Influencing Mitigation Status among Florida's Single-Family Homeowners, 1536

Pearce, Annie R.

see Bosch, Sheila J., 1037

Pearson, R.

see Snyder, S., 1486

Pecheux, Kelly Klaver

see Fang, Fang Clara, 1362

Pedersen, H. A.

see Chammas, R., 17

Peet, Andrew

see Damgaard, Jesper, 766

Peled, Alva

Processing Effects in Cementitious Composites: Extrusion and Casting, 983

Quantitative Description of the Pull-Out Behavior of Crimped Yarns from Cement Matrix, 1025

Pelletier, Geneviève

Modeling Water Pipe Breaks-Three Case Studies, 1391

Peraza, David B.

see Zallen, Rubin M., 1614

Pereira, Paulo see Golabi, Kamal, 848

Perera, B. J. D.

see Ibrahimi, F., 563

Pérez-Losada, Joaquim

Evidence of High Vertical Wave-Number Behavior in a Continuously Stratified Reservoir: Boadella, Spain, 768

Peterman, Jean (Jenny)

see Kockelman, Kara M., 1312

Peterson, S. T.

Application of Dynamic System Identification to Timber Bridges, 1096

Petzold, Kevin

see Hegazy, Tarek, 242

Pezeshk, Shahram

see Camp, Charles V., 1095

Pfatteicher, Sarah K. A.

Depending on Character: ASCE Shapes its First Code of Ethics, 1059

Pfeifer, Thomas

see DesRoches, Reginald, 92

Phadke

Phadke, Amal C.

Nonlinear Response of Fluid-Filled Membrane in Gravity Waves, 364

Phan, Long T., P.E.

see Mlakar, Paul E., P.E., 1549

see Mlakar, Paul E., P.E., 1629

Phang, Kuang Yeow

see Maier, Holger R., 1399

Phatak, D. R.

Dimensional Analysis of Reinforced Concrete Beams Subjected to Pure Torsion, 1239

Pheng, Low Sui

Integrating ISO 9001 and OHSAS 18001 for Construction, 236

Internationalization of Chinese Construction Enterprises, 264

Phoon, K. K.

see Chow, Y. K., 681

Phoon, Kok-Kwang

Development of a Reliability-Based Design Framework for Transmission Line Structure Foundations, 653

Identification of Statistically Homogenous Soil Layers Using Modified Bartlett Statistics, 640

Multiple Resistance Factor Design for Shallow Transmission Line Structure Foundations, 654

Pichler, Christian

Thermochemomechanical Assessment of Ground Improvement by Jet Grouting in Tunneling, 387

Pickney, Chris

see Murillo, Blake, 931

Piechota, Thomas

see Singh, Vivek, 830

Pielke, Roger A., Jr.

Hurricane Vulnerability in Latin America and the Caribbean: Normalized Damage and Loss Potentials, 1531

Pietrucha, Martin T.

see Fang, Fang Clara, 1362

Pietruszczak, S.

Constitutive Model for Concrete with Embedded Sets of Reinforcement, 363

Pigeon, Michel

see Pouliot, Nadia, 966

Pijaudier-Cabot, Gilles

see Le Bellégo, Caroline, 321

Pilakoutas, K.

Alternative Shear Reinforcement for Reinforced Concrete Flat Slabs, 1197

Pilakoutas, Kypros

see El-Ghandour, Abdel Wahab, 184

Pine, John C.

Comprehensive Assessment of Hurricane Shelters: Lessons from Hurricane Georges, 1541

Pinzen, A. Batemann

see Wilson, C. A. M. E., 780

2003 ASCE TRANSACTIONS

Pircher, H. see Janjic, D., 85

Pircher, M.

see Janjic, D., 85

Pirozzi, Francesco

see Esposito, Giovanni, 488

Pirrello, Mark, ed.

see Mohan, Ram K., ed., 1604

Pisano, William C., P.E.

Automated Sewer and Drainage Flushing Systems in Cambridge, Massachusetts, 719

Pise, P. J.

see Dash, B. K., 673

Plank, Roger J.

see Huang, Zhaohui, 1190

see Huang, Zhaohui, 1191

Playán, E.

see Clemmens, A. J., 902

see Sourell, H., 900

Polettini, Alessandra

Simulation of Municipal Solid Waste Incinerator Ash/ Cement Systems by Means of Factorial Experiments, 566

Pollalis, Spiro

Targeted Portals: Facilitating Innovation in Building Technology through Online Resources, 919

Pollock, D. G.

see Peterson, S. T., 1096

Polus, Abishai

Critical Gap as a Function of Waiting Time in Determining Roundabout Capacity, 1344

Pomi, Raffaella

see Polettini, Alessandra, 566

Ponce, Victor M.

Dam-Breach Flood Wave Propagation using Dimensionless Parameters, 772

Pong, Chin Young

see Pheng, Low Sui, 236

Popescu, Adriana

Building Research Skills: Course-Integrated Training Methods, 1061

Popescu, Clara

see Ayyub, Bilal M., P.E., 115

Popescu, Radu

see Popescu, Adriana, 1061

Porter, Brad, P.E.

Transforming Crissy Field, 1553

Ports, Michael A., ed.

Watershed Management, 1647

Poston, Randall W., P.E.

Enduring Strength, 1586

Pothisiri, T.

Structural Damage Detection and Assessment from Modal Response, 299

AUTHOR INDEX

Quigley

Potts, D. M.

see Zdravković, L., 12

Pouliot, Nadia

Hydration Mechanisms, Microstructure, and Mechanical Properties of Mortars Prepared with Mixed Binder Cement Slurry-Asphalt Emulsion, 966

Poulton, Mary

see Coppola, Emery, Jr., 838

Powell, Anne Elizabeth

Light of L.A., 1544

Powell, Chris

see Goodman, Richard E., 588

Powell, R. S.

see McCormick, G., 1413

Power, Edward, P.E.

see Horton, Richard, P.E., 1598

Pozueta, Beatriz

see Kobayashi, Nobuhisa, 1452

Prakasam, R.

see Rajasekaran, S., 277

Prasuhn, A. L.

ASCE History and Heritage Programs, 1058

Prater, Carla S.

see Lindell, Michael K., 1539

Prescott, Simon L.

Dynamic Modeling of Pressure Reducing Valves, 775

Price, A. D. F.

Strategic Management: Consideration of Paradoxes, Processes, and Associated Concepts as Applied to Construction, 960

Price, Colin

see Doyle, James D., 491

Price, J. R.

see Indraratna, B., 666

Priestley, M. J. N.

see Benzoni, G., 74

Prietto, Pedro D. M.

see Consoli, Nilo C., 669

Prietto, Pedro Domingos Marques

see Consoli, Nilo Cesar, 587

Pringle, Rob

see Abdulhai, Baher, 1316

Prinos, Panavotis

Turbulent Flow over and within a Porous Bed, 767

Prozzi, Jorge A.

Incremental Nonlinear Model for Predicting Pavement Serviceability, 1359

Prunty, Lyle

Soil Water Retention and Conductivity when Vapor Flow is Important, 881

Synchrotron Radiation for Detecting Movement of a Volatile Soil Liquid, 499

Psarianos, Basil

see Mavromatis, Stergios, 1353

Puckett, J. A.

see McManus, P. S., 1121

Pugner, Paul E., P.E.

see Hickey, John T., P.E., 1420

Puig-Grajales, Laura

see Razo-Flores, Elías, 560

Pulido-Calvo, I.

Demand Forecasting for Irrigation Water Distribution Systems, 904

Water Delivery System Planning Considering Irrigation Simultaneity, 886

Pulsipher, Allan G.

see Kaiser, Mark J., 1460

Purcell, Michael R.

see Muszynski, Larry C., 167

see Muszynski, Larry C., 168

Puzrin, A. M.

Rate-Dependent Hyperplasticity with Internal Functions, 312

Qi, Lan

see Ding, Hongyan, 120

Qian, L.

Cartesian Cut Cell Two-Fluid Solver for Hydraulic Flow Problems, 764

Qian, Song

see McMahon, Gerard, 1408

Qian, Xuede

Translational Failure Analysis of Landfills, 627

Oian, Yi

see Xing, Chuan-Hong, 477

Qiao, Pizhong

Local Buckling of Composite Fiber-Reinforced Plastic Wide-Flange Sections, 1097

Qin, Ling

see Smith, Brian L., 1326

Qin, Weizu

see Zheng, Juanrong, 1035

Qin, X. S.

see Huang, Y. F., 1472

Qiu, Tony J.

see Malkawi, Abdallah I. Husein, 1054

Ou. Jianmin

see Becker, Jens. 440

Qu, Jiu-Hui

Reduction of Fulvic Acid in Drinking Water by Ferrate, 445

Qubain, Bashar S.

Variable Bulk Modulus Constitutive Model for Sand. 593

Quek, Ser-Tong

see Phoon, Kok-Kwang, 640

Qui, Xuijin

see Tugun, Hazim, 472

Quigley, Donald W.

see Fox, Patrick J., 668

Ouigley

2003 ASCE TRANSACTIONS

Quigley, Marcus M., P.E.

see Roy, Steven P., 1562

Quiñones, O.

see Snyder, S., 1486

Ouintas, Bettina V.

see Rubin, Robert A., 1065

Ouintas, Valentín

Two Main Methods for Yield Line Analysis of Slabs, 308

Quintela, Manuel

Atmospheric Oxygen Transfer during In Situ Oxygen Uptake Rate Measurements, 464

Radwan, Mona

see El-Sadek, Alaa, 864

Raebel, Christopher H.

see Hanagan, Linda M., 1049

Rafiq, M. Y.

Conceptual Building Design-Evolutionary Approach,

Ragavan, Vinasithamby Effects of Stiffeners on Nonlinear Stability of Self-

Rahardjo, H.

see Rezaur, R. B., 813

Erecting Dome, 1089

Rahim, Ashraf

Falling Weight Deflectometer for Estimating Subgrade Elastic Moduli, 1295

Rahimian, Ahmad, P.E.

Super Structure, 1571

Rahman, S.

see Webster, D. R., 404

Rahmatalla, Salam

Form Finding of Sparse Structures with Continuum Topology Optimization, 1253

Raichlen, Fredric

see Li, Ying, 1433

Rajagopalan, Balaji

see Neumann, David W., 523

Rajaratnam, N.

Erosion of Sand by Circular Impinging Water Jets with Small Tailwater, 715

Rajasekaran, S.

Prediction of Humidification Power in Textile-Spinning Mills using Functional and Neural Networks, 277

Raibhandari, B.

see Waterson, B. J., 1360

Raju, K. Kanaka

see Rao, G. Venkateswara, 426

Raju, Kittur G. Ranga

see Ansari, Sarfaraz A., 798

Rakha, Hesham

see Zarif, Jamal El, 1354

Rakha, Hesham, P.E.

Impact of Stops on Vehicle Fuel Consumption, 1286

Ralegaonkar, Rahul V.

see Gupta, Rajiv, 1374

Ramamurthy, K.

see Anand, K. B., 225

Ramasastri, K. S.

see Sudheer, K. P., 883

Rameshwaran, Ponnambalam

Three-Dimensional Numerical Simulation of Compound Channel Flows, 760

Ramey, George E.

Performance of Bonded Bridge Deck Overlays in Alabama, 1493

see Balmer, Daniel M., 1502 see McRae, Stephen, 1510

see McRae, Stephen, 1511

Ramey, Michael

see Parker, Gary, 784

Ramme, Bruce W.

see Naik, Tarun R., 1008 Ramsamooj, D. V., P.E.

Analytical Prediction of Fatigue Crack Propagation in Metals, 357

Ramsey, Natasha

see Van Arsdale, Roy, 1518

Ramsey, T. L.

see Ooi, P. S. K., 18

see He, Rong, 1357

Randall, Robert E., P.E.

see Williams, Gregory L., P.E., 1442

Randolph, Dennis A., P.E.

Role of the Engineer in Rural Municipalities, 949

Ranganathan, C. R.

see Ravikumar, V., 892

Ranjith, P. G.

see Indraratna, B., 666

Ranjithan, S. Ranji

see Harrell, Laura J., 1389

Rao, G. Venkateswara Thermal Postbuckling of Uniform Columns on Elastic Foundation-Intuitive Solution, 426

Rao, K. V. Krishna

see Rastogi, Rajat, 1365

Raphael, Benny

see Domer, Bernd, 140

Rasdorf, William, P.E.

Transportation Distance Measurement Data Quality,

Raslan, Mohamed S.

see Elazouni, Ashraf M., 1062

Rasmussen, Kim, J. R.

see Bezkorovainy, Paul, 1225

Rasoulian, Masood, P.E.

see Titi, Hani, P.E., 1297

AUTHOR INDEX

Richards

Rastogi, Rajat

Travel Characteristics of Commuters Accessing Transit: Case Study, 1365

Rau, Jiann-Yeou

see Chen, Liang-Chien, 1266

Raubenheimer, Britt

see Cowen, Edwin A., 403

Raventós, Neus

see Fernádez, Ana I., 475

Ravikumar, V.

Analytical Equation for Variation of Discharge in Drip Irrigation Laterals, 892

Ray, Malcolm H., P.E.

In-Service Performance Evaluation of Bullnose Median Barriers in Iowa, 1291

Razagpur, A. G.

see Chidiac, S. E., 1007

Razavi, Abdolmehdi

see Sayed, Tarek, 139

Razo-Flores, Elías

Biodegradation of Mixtures of Phenolic Compounds in an Upward-Flow Anaerobic Sludge Blanket Reactor, 560

Reaveley, L. D.

see McMullin, P. W., 165

Rechenmacher, Amy L.

see Finno, Richard J., 612

Reck, Todd, P.E.

see Ryburn, David, 1565

Recker, Wilfred W.

see Golob, Thomas F., 1324

Reckhow, Kenneth H.

see Borsuk, Mark E., 1404

see Stow, Craig A., 1407 Reddi, Lakshmi N.

see Lee, In-Mo, 677

Reddy, J. N.

Frequency of Functionally Graded Plates with Three-Dimensional Asymptotic Approach, 381

Reddy, Krishna R.

Effect of Soil Type on Electrokinetic Removal of Phenanthrene using Surfactants and Cosolvents, 482

Iodide-Enhanced Electrokinetic Remediation of Mercury-Contaminated Soils, 575

Sequentially Enhanced Electrokinetic Remediation of Heavy Metals in Low Buffering Clayey Soils, 604

Reed, Gerard E., III, P.E.

Building the Olivenhain, 1558

Reedy, Robert C.

Soil Water Content Monitoring using Electromagnetic Induction, 678

Reents, Gary

see Culp, Gordon, 914

Reese, Carol

Employment History Survey of ASCE's Younger Members, 916 Reichler, Jamie D., P.E.

see Choi, Ying-Kit, P.E., 974

Reinhardt, Hans W.

see Grosse, Christian U., 993

Reinhorn, Andrei M.

see Ribakov, Yuri, 1224

Ren, Hongze

Influence of Diffuser Jet Characteristics on Indoor Air Distribution under Actual Connecting Conditions, 70

Ren 9

Comparative Study of Two Bioassays for Applications in Influent Wastewater Toxicity Monitoring, 468

Toxicity Estimation of Phenolic Compounds by Bioluminescent Bacterium, 481

Ren, Z.

Multiagent System for Construction Claims Negotiation, 145

Renetzky, David, ed.

see Ports, Michael A., ed., 1647

Rens, Kevin L., ed.

see Bosela, Paul A, ed., 1615

Replogle, J. A.

see Clemmens, A. J., 763

Restrepo, Jose

see Holden, Tony, 1114

Rex, Clinton O., P.E.

Behavior and Modeling of a Bolt Bearing on a Single Plate, 1162

Reynaud, D.

see Karbhari, V. M., 182

Reynolds, P.

Effects of False Floors on Vibration Serviceability of Building Floors. I: Modal Properties, 1044

Effects of False Floors on Vibration Serviceability of Building Floors. II: Response to Pedestrian Excitation, 1045

Reza, Farhad, P.E.

Resistance Changes during Compression of Carbon Fiber Cement Composites, 1018

Rezaur, R. B.

Hydrologic Behavior of Residual Soil Slopes in Singapore, 813

Rezende, C. H.

see Gomes, R. C., 1525

Ribakov, Yuri

Design of Amplified Structural Damping using Optimal Considerations, 1224

Ribeiro, L. F. M.

see Gomes, R. C., 1525

Ricciardelli, F., P.E.

see Palmeri, A., P.E., 362

Richards, R., Jr.

see Fishman, K. L., 660

Richards, Todd E., P.E.

see Whelton, Andrew J., 1595

Richardson

2003 ASCE TRANSACTIONS

Richardson, Kevin A.

see Hickey, John T., P.E., 1420

Ricles, James M.

see Garlock, Maria M., 1244

Riddington, John R.

Mechanical Properties of Lead Alloys in Compression,

Rinaldi, Víctor A.

see Francisca, Franco M., 483

see Francisca, Franco M., 573

Rioux, Tom

see Khoury, Joseph A., 1355

Rittenburg, Kathleen A. Wills

Deflection of Metal Plate Connected Wood Trusses with Nontriangulated Openings, 1238

Rittmann, Bruce E.

Biogeochemical Evaluation of Mechanisms Controlling CaCO_{xx}, Precipitation in Landfill Leachate-Collection Systems, 529

Riva, Paolo

see Marini, Alessandra, 1223

Rivard, H.

see Morcous, G., 150

Rivera, Maria C.

see Davidson, Rachel A., 1379

Rivers, Mark

see Prunty, Lyle, 499

Rizkalla, Sami

see Hassan, Tarek, 183

Rizkalla, Sami H.

see Becque, Jurgen, 160

see Williams, Brea, 185

Rizos, Chris

see Ogaja, Clement, 1271

see Satirapod, Chalermchon, 1276

Rizzo, Piervincenzo

see di Scalea, Francesco Lanza, 987

Ro, Kyoung S.

see Quintela, Manuel, 464

Roberson, J. Alan, P.E.

Endocrine Disruptors as a New Regulatory Endpoint,

Roberts, Bradford W., P.E.

see Brengola, Andrew F., P.E., 1573

Roberts, Jesse D.

Measurements of Sediment Erosion and Transport with the Adjustable Shear Stress Erosion and Transport Flume, 782

Roberts, Matthew W.

Potential for Structural Failure in the Seismic Near Field, 384

Roberts, S.

see Zoppou, C., 694

Robinson, D. N.

Creep of Polymer Matrix Composites. I: Norton/ Bailey Creep Law for Transverse Isotropy, 318 see Binienda, W. K., 319

Robinson, Sandra L.

Field and Laboratory Evaluation of the Impact of Tall Fescue on Polyaromatic Hydrocarbon Degradation in an Aged Creosote-Contaminated Surface Soil, 470

Robson, Forrest, P.E.

see Rasdorf, William, P.E., 134

Rocco, Anddrea

see Rozzi, Alberto, 515

Rock, Steven A.

see Albright, William H., 1568

Roddis, W. M. Kim

Finite-Element Analysis of Steel Bridge Distortion-Induced Fatigue, 101

Rodriguez, Guillermo

see Manvi, Ram, 51

Rodriguez, Hugo N.

see Wool, Tim A., 1406

Roeder, Charles W.

Proposed Design Method for Thermal Bridge Movements, 72

Roesler, Arthur C.

see Albright, William H., 1568

Roessler, Chris

see Stow, Craig A., 1407

Rogers, Colin A.

Inelastic Seismic Response of Frame Fasteners for Steel Roof Deck Diaphragms, 1247

Inelastic Seismic Response of Side Lap Fasteners for Steel Roof Deck Diaphragms, 1246

see Essa, Hesham S., 1248

Rogers, Cranston R., P.E.

The Big Dig's Big Dig, 1584

Rogers, E.

see Aglietti, G. S., 41

Rogers, Michael F., P.E.

see Reed, Gerard E., III, P.E., 1558

Roget, Elena

see Pérez-Losada, Joaquim, 768

Rojas, Eddy M.

Is Construction Labor Productivity Really Declining?, 202

Labor Productivity Drivers and Opportunities in the Construction Industry, 947

Modeling the Construction Management Process to Support Situational Simulations, 154

see Chinowsky, Paul S., 950

Roldán, J.

see Pulido-Calvo, I., 886

see Pulido-Calvo, I., 904

Romeo, Roberto W.

see Genevois, Rinaldo, 15

Romero, Enrique Martinez, P.E.

see Rahimian, Ahmad, P.E., 1571

Roongreung, Boonmark

see Jaturapitakkul, Chai, 1017

Roque, Reynaldo, P.E.

see Mehta, Yusuf, P.E., 962

Rosati, G.

see Meda, A., 104

Rosenau, Diana

see Birke, Volker, 1490

Rosenberg, Eric

see Vokral, John, P.E., 1550

Rosowsky, David

What Are Our Expectations, Objectives, and Performance Requirements for Wood Structures in High Wind Regions?, 1535

Rosowsky, David V.

see Davidson, Rachel A., 1522

see Stewart, Mark G., 1519

Roussis, Panayiotis C.

Assessment of Performance of Seismic Isolation System of Bolu Viaduct, 91

Rowe, R. K.

see Shang, J. Q., 1461

Rowe, R. Kerry

see Rittmann, Bruce E., 529

Roy, Douglas, P.E.

see Iskander, Magued, P.E., 689

Roy, Shuvo

see Mitchell, Jay S., 43

Roy, Steven P.

A Retrofit for Long Lake, 1562

Rozzi, Alberto

Dissolved Oxygen-State Titration Respirometry: Principle of Operation and Validation, 515

Rubiera, Jose

see Pielke, Roger A., Jr., 1531

Rubin, Robert A.

Alternative Dispute Resolution in U.S. Public Works: Proposed Model, 1065

Ruckgaber, M. E.

see Tarefder, R. A., 980

Rueda, Francisco J.

Dynamics of Large Polymictic Lake. I: Field Observations, 701

Dynamics of Large Polymictic Lake. II: Numerical Simulations, 702

Ruggles, M. B.

see Binienda, W. K., 319

see Robinson, D. N., 318

Rusch, Kelly A.

see Guo, Tingzong, 484

Rushforth, Peter

see De Sutter, Renaat, 727

Rushforth, Peter J.

Modeling the Erosion of Mixtures of Organic and Granular In-Sewer Sediments, 725

see Saul, Adrian J., 724

Russell, Jeffrey S., ed.

Perspectives in Civil Engineering: Commemorating the 150th Anniversary of the American Society of Civil Engineers, 1630

Some Ethical Dimensions of Additional Education for the 21st Century, 1080

see Ammar, Abdurahman, 219

see Kim, Sung-Keun, 136

Ruzzene, Massimo

Control of Wave Propagation in Sandwich Plate Rows with Periodic Honeycomb Core, 389

Ryburn, David

Closing the Loop, 1565

Saadatmanesh, H.

see Tavakkolizadeh, M., 190

see Tavakkolizadeh, M., 1087

see Tavakkolizadeh, M., 1104

Saadatmanesh, Hamid, P.E.

see Tang, Taiping, 180

Saadeghvaziri, M. Ala, P.E.

see Hadidi, Rambod, 1501

Saatcioglu, Murat

External Prestressing Concrete Columns for Improved Seismic Shear Resistance, 1186

Saavedra, I

Dynamic Wave Study of Flow in Tidal Channel System of San Juan River, 749

Saber, Azia

Simulation for Ground Movements due to Pipe Bursting, 855

Sabnis, Gajanan

see Moo-Young, Horace, 551

Saccomanno, Frank

see Mehmood, Arif, 1358

Sacks, R.

Building Project Model Support for Automated Labor Monitoring, 129

Sadek, Adel W.

Integrated Infrastructure Management Systems: Small Urban Area's Experience, 851

Sadek, Fahim

see Simiu, Emil, 1125

Sadek, Samer

Accuracy of Digital Image Correlation for Measuring Deformations in Transparent Media, 135

Saetta, Valeria

see Castelli, Marta, 28

Safak, Erdal

see Zhang, Ray Ruichong, 378

Saha A K

Investigation of Two- and Three-Dimensional Models of Transitional Flow Past a Square Cylinder, 423

Sahota, Manjinder K.

see Riddington, John R., 999

Sahu, S. K.

Dynamic Stability of Laminated Composite Curved Panels with Cutouts, 416

Saichek

2003 ASCE TRANSACTIONS

Saichek, Richard E.

see Reddy, Krishna R., 482

see Reddy, Krishna R., 575

Sajidi, M.

see Kavlicoglu, B. M., 162

Sakumoto, Y.

Fire Resistance of Walls and Floors using Light-Gauge Steel Shapes, 1235

Saleh, Bassam

Study of Earth Tides using Quartz Tiltmeter, 1263

Salem, Ossama

Risk-Based Life-Cycle Costing of Infrastructure Rehabilitation and Construction Alternatives, 841

Salgado, R.

see Carraro, J. A. H., 671

see Scott, B., 606

Salgado, Rodrigo

see Lee, Junhwan, 617

see Paik, Kyuho, 582

see Paik, Kyuho, 607

Saliklis, Edmond P.

Hershey Arena: Anton Tedesko's Pioneering Form, 1113

Saller, Brian J.

see Molenaar, Keith R., 1069

Salwen, Peter

Fostering Innovation and Entrepreneurialism in a Value-Driven Organization, 933

Samali, Bijan

see Widjaja, Joko, 437

Samani, Hossein M. V.

Design of Circular Urban Storm Sewer Systems using Multilinear Muskingum Flow Routing Method, 778

Reservoir Routing using Steady and Unsteady Flow through Rockfill Dams, 740

Samani, Jamal M. V.

see Samani, Hossein M. V., 740

Samelian, Frederic

see Gulezian, Ronald, 957

Sammels, Leen

see El-Sadek, Alaa, 864

Sample, David J.

Costs of Best Management Practices and Associated Land for Urban Stormwater Control, 1385

Samuel, Manoj P.

Estimation of Aquifer Parameters from Pumping Test
Data by Genetic Algorithm Optimization Technique,

Sanchez, C. A.

see Zerihun, D., 878

Sánchez, M.

see Mosquera-Corral, A., 540

Sanders, Brett F.

Discretization of Integral Equations Describing Flow in Nonprismatic Channels with Uneven Beds, 717

see Chu. Allyson K., 534

Sandiford, Raymond, P.E.

see Dinkels, Jerrold, P.E., 1577

Sandino, Julian, P.E.

The Smaller the Better, 1589

Sanford Bernhardt, Kristen L.

Asset Management Framework for Geotechnical Infrastructure, 852

Sang, Li Pui

see Ahmed, Syed M., 237

Sankaranarayanan, S.

Three-Dimensional Modeling of Tidal Circulation in Bay of Fundy, 1440

Sansalone, John J.

see Cristina, Chad M., 478

see Cristina, Chad M., 518

Santamarina, Juan C.

see Francisca, Franco M., 573

Sapsathiarn, Yasothorn

see Senjuntichai, Teerapong, 424

Saran, Swami

see Kumar, Arvind, 641

Sarcos-Portillo, Antonio

Inspection and Process of Tension of Cables of General Rafael Urdaneta Bridge, 96

Sargand, Shad M.

Evaluation of Cone Penetration Test-Based Settlement Prediction Methods for Shallow Foundations on Cohesionless Soils at Highway Bridge Construction Sites. 664

Saribiyik, M.

see Gosling, P. D., 973

Sarkani, Shahram

see Lutes, Loren D., 1166

Sarkar, Abhijit

Linear Stochastic Dynamical System under Uncertain Load: Inverse Reliability Analysis, 356

Sarpong, Isaac K.

see Davidson, Rachel A., 1522

Sasaki, Atsushi

see Satake, Naoki, 1129

Sassu, Mauro

"Bizxiality Effect" on the Energy Dissipated by Elastoplastic Base-Isolators, 349

Satake, Naoki

Damping Evaluation using Full-Scale Data of Buildings in Japan, 1129

Satirapod, Chalermchon

Comparing Different Global Positioning System Data Processing Techniques for Modeling Residual Systematic Errors, 1276

Sato, Chikashi

Modeling Tetrachloroethylene Decomposition in Photosonolysis Reactor, 458

Sato, Yuichi

Tension Stiffening and Crack Formation in Reinforced Concrete Members with Fiber-Reinforced Polymer Sheets, 1154

AUTHOR INDEX

Segale

Saul, Adrian

see De Sutter, Renaat, 727

Saul, Adrian J.

Movement of Total Suspended Solids in Combined Sewers, 724

see Rushforth, Peter J., 725

see Tait, Simon J., 726

Saunders, Herb, P.E.

Project Management Training and Community Service, 935

Sause, Richard

see Garlock, Maria M., 1244

Savic, Dragan A.

see Bessler, Florian T., 1382

see Kapelan, Zoran S., 1422

Savoia, Marco

see Mazzotti, Claudio, 398

Sawhney, Anil

see Bashford, Howard H., 235

Saved, Tarek

Comparison of Adaptive Network Based Fuzzy Inference Systems and B-Spline Neuro-Fuzzy Mode Choice Models, 139

see Lin, Fred, 1329

Sayers, Paul B.

see Hall, Jim W., 1533

Scanlon, Bridget R.

see Reedy, Robert C., 678

Scarino, John H. Reappraisal of Marston's Formula, 1367

Scavia, Claudio

see Castelli, Marta, 28

Schafer, B. W.

Local, Distortional, and Euler Buckling of Thin-Walled Columns, 2

Schafer, Benjamin W.

see Yu, Cheng, 1242

Schatzmann, Markus

Rheological Behavior of Fine and Large Particle Suspensions, 774

Schaufelberger, John E.

Alternate Financing Strategies for Build-Operate-Transfer Projects, 221

Scheel, H.

Location of Prestressing Steel Fractures in Concrete, 988

Schenk, Christian A.

Response of Continuous System with Stochastically Varying Surface Roughness to Moving Load, 366

Scherschligt, Dan

see Melhem, Hani G., 132

Schexnayder, Cliff

see Girmscheid, G., 1509

Schexnayder, Cliff J.

see James, David M., 1503

see Zelasko, Steve, 1506

Schickert, Martin

Ultrasonic Imaging of Concrete Elements using Reconstruction by Synthetic Aperture Focusing Technique,

Schiff, Kenneth

see Ackerman, Drew, 479

Schiff, Scott

see Rosowsky, David, 1535

Schinler, Daniel

see Foley, Christopher M., 1147

Schlacher, Kurt

see Cojocaru, Eugenia C., 399

Schladow, S. Geoffrey

see Rueda, Francisco J., 701

see Rueda, Francisco J., 702

Schodek, Daniel L.

see Yun, Yong Gib, 59

Schonberg, W. P.

see Depczuk, D., 56

Schonfeld, Paul

see Jha, Manoj K., 842

Schultz, A. E.

see Jajich, D., 80

Schuyler, A.

see Papanicolaou, A. N., 412

Scott, B.

Assessment of Current Load Factors for Use in Geotechnical Load and Resistance Factor Design, 606

Scott, Christopher A.

Mapping Root Zone Soil Moisture using Remotely Sensed Optical Imagery, 895

Scow, Kate M.

see Başağaoğlu, Hakan, 510

Scruggs, J. T.

Control of Civil Structure Using an Electric Machine with Semiactive Capability, 1176

Scullion, Tom

see Chen, Dar-Hao, 1043

Seacord, Thomas F.

see Cleveland, Christopher T., 9

Seagren, Eric A.

Nonaqueous Phase Liquid Pool Dissolution as a Function of Average Pore Water Velocity, 536

Seah, Hsin Yeow

see Maier, Holger R., 1399

Searcy, Chad R.

see Berthelot, Curtis F., 1021

Sears, K.

Nitrification in Pure Oxygen Activated Sludge Systems, 457

(CIIIS, 457

Seed, Raymond B. see Wartman, Joseph, 643

Segale, Joe, P.E.

see Sadek, Adel W., 851

Sego, D. C.

Enlarged Base (Belled) Piles for Use in Ice or Ice-Rich Permafrost, 121

Segurson, Anna

see Dougherty, Anne M., 1208

Seible, Frieder

see di Scalea, Francesco Lanza, 987

see McDaniel, Cole C., 1163

Seible, Frieder, P.E.

see Seim, Werner, 1157

Seidel, Julian P.

see Gu, Xue F., 14

Seim, Werner

Poststrengthening of Concrete Slabs: Full-Scale Testing and Design Recommendations, 1157

Selekwa, Majura

see Mussa, Renatus, P.E., 1330

Sellasie, Kassahun

see Moo-Young, Horace, 551

Selle, Ricky

see Steinberg, Eric, 1237

Sellgren, A.

see Wilson, K. C., 700

Selvadurai, A. P. S.

Intake Shape Factors for Entry Points in Porous Media with Transversely Isotropic Hydraulic Conductivity, 27

Semblat, J. F.

see Chammas, R., 17

Sen, Rajan, P.E.

Finite-Element Modeling of Heat-Curved I-Girders, 88

Son S

Anaerobic Treatment of Synthetic Textile Wastewater Containing a Reactive Azo Dye, 514

Şen, Zekai

Autorun Persistence of Hydrologic Design, 836

Sengupta, D.

see Sheikh, A. H., 415

Senjuntichai, Teerapong

Forced Vertical Vibration of Circular Plate in Multilayered Poroelastic Medium, 424

Sennah, Khaled

Design for Shear in Curved Composite Multiple Steel Box Girder Bridges, 87

Sens, James D.

see Greenfeld, Joshua, 1273

Seo, Hyungjoon

see Park, Kwangho, 200

Seo. Seongwon

Evaluation of Solid Waste Management System using Fuzzy Composition, 504

see Park, Kwangho, 200

Seok, Jonghyuk

Integrated Modeling of Anaerobic Fluidized Bed Bioreactor for Deicing Waste Treatment. I: Model Derivation, 454 Integrated Modeling of Anaerobic Fluidized Bed Bioreactor for Deicing Waste Treatment. II: Simulation and Experimental Studies, 455

Sepponen, Carl, ed.

see Lund, Le Val, ed., 1624

Serrano, Sergio E.

Improved Decomposition Solution to Green and Ampt Equation, 815

Modeling Groundwater Flow under Transient Nonlinear Free Surface, 812

Sesker, Jacob

see Kockelman, Kara M., 1312

Seydel, John

Evaluating and Comparing Bidding Optimization Effectiveness, 231

Sgouridis, Sgouris P.

Simulation Analysis for Midterm Yard Planning in Container Terminal, 1447

Shabbar, Amir

see Hsieh, William W., 1394

Shabman, Leonard

Implications of Applying Statistically Based Procedures for Water Quality Assessment, 1409

Shah, Ronak

see Hastak, Makarand, 102

Shah, Surendra P.

see Peled, Alva, 983 see Voigt, Thomas, 990

Shahawy, Mohsen

see Chaallal, Omar, 179

Shahawy, Mohsen, P.E.

see Cai, Chun S., P.E., 1515

Shahien, M.

see Mesri, G., 580

Shahrour, Isam

see Chen, Sheng-hong, 672

Shajannejad, Mohammad

see Samani, Hossein M. V., 740

Shalaby, Amer, P.E.

see Miller, Eric J., 1368

Shan, Jie

Study on Accuracy of 1-Degree DEM Versus Topographic Complexity Using GIS Zonal Analysis, 1268

Shang, J. Q.

Detecting Landfill Leachate Contamination using Soil Electrical Properties, 1461

Shankar, K.

see Koh, C. G., 367

Shankar, N. Jothi

see Chao, Xiaobo, 746

Shanmugam, N. E.

Steel-Concrete Composite Plate Girders Subject to Shear Loading, 1204

Shao, Yixin

see Giroux, Cynthia, 194

Shapiro, Saul

Effects of Silt on Three-Dimensional Stress-Strain Behavior of Loose Sand, 579

Plastic Limit, Liquid Limit and Undrained Shear Strength of Soil-Reappraisal, 651

Sharma, K. G.

see Varadarajan, A., 598

Sharma, R. K.

see Maru, Savita, 1136

Sharma, Shambhu S.

Degradation of Stiffness of Cemented Calcareous Soil in Cyclic Triaxial Tests, 637

Evaluation of Cyclic Shear Strength of Two Cemented Calcareous Soils, 636

Sharp, Michael K

Liquefaction Centrifuge Modeling of Sands of Different Permeability, 684

see Domer, Bernd, 140 see Fest, Etienne, 1134

Sheahan, Thomas C.

Simplified Trial Wedge Method for Soil Nailed Wall Analysis, 589

see Germaine, John T., ed., 1640

Shehata, Emile

see Williams, Brea, 185

Sheikh, A. H.

Vibration of Thick and Thin Plates using a New Triangular Element, 415

Imperfection Sensitivity of Laminated Cylindrical Shells According to Different Shell Theories, 396

Shen, Hui-Shen

Postbuckling of Pressure-Loaded Functionally Graded Cylindrical Panels in Thermal Environments, 330

Shen, L. J.

see Chua, D. K. H., 232

Shen, Qiping

Critical Success Factors for Value Management Stud-ies in Construction, 252

Shen, R. F.

see Leung, C. F., 583

Shen, S. B.

Bacterial Leaching of Metals from Tannery Sludge by Indigenous Sulphur-Oxidizing Bacteria—Effect of Sludge Solids Concentration, 503

Laboratory Pilot Test of Chromium (III) Isolation from Acid Extract of Tannery Sludge, 1468

Sheng, Daichao

see Li. Jie. 13

Sherif, Alaa

see Dilger, Walter, 86

Sherman, Douglas J.

see Nordstrom, Karl F., 1427

Sherwood, Ted

see Soudki, Khaled, 1004

Shetty, Ampar V.

see Ponce, Victor M., 772

Shi, Fengyan

Wave Simulations in Ponce de Leon Inlet using Boussinesq Model, 1441

Shi, Jonathan Jingsheng

Enterprise Resource Planning for Construction Business Management, 222

see Zhang, Hong, 131

Shi, Lei

see Michalowski, Radoslaw L., 621

Shi, W. Z.

see Li, Heng, 275

Shi, X. I.

see Cheng, H. D., 153

Shi, X. P.

see Zhang, J., 1366

Shi, Zihai

Numerical Analysis of Multiple Discrete Cracks in Concrete Dams using Extended Fictitious Crack Model, 1117

Shields, F. Douglas, Jr.

Design for Stream Restoration, 754

Shige-eda, Mirei

Numerical and Experimental Study on Two-Dimensional Flood Flows with and without Structures, 777

Shigidi, Abdalla

Parameter Estimation in Groundwater Hydrology using Artificial Neural Networks, 155

Shih, Li-Hsing

Multicriteria Optimization for Infectious Medical Waste Collection System Planning, 1470

Aspects of Technological Development of Wind Turbines, 282

Wind Energy Conversion Systems, 281

Shimizu, Kan

see Kurino, Haruhiko, 1170

Shin, Hyun Mock

see Kim, Tae-Hoon, 1202

Shin, HyunMock

see Kim, Tae-Hoon, 1201

Shin, Sungwon

see Cox, Daniel T., 411

see Choi. K., 1093

Shinozuka, Masanobu

see Kim, Sang-Hoon, 414

Shiono, Koji

Turbulence Measurements of Dye Concentration and Effects of Secondary Flow on Distribution in Open Channel Flows, 732

Shohet, Igal M.

Communication Patterns in Construction at Construction Manager Level, 262

Shooshtari

2003 ASCE TRANSACTIONS

Shooshtari, Mohammad Mahmodian

see Abbasi, Fariborz, 882

Shouse, Peter

see Abbasi, Fariborz, 867

see Abbasi, Fariborz, 885

Show, Kuan-Yeow

Reuse of Incinerator Fly Ash in Soft Soil Stabilization, 1001

see Goh, Chia-Chia, 1023

see Tay, Joo-Hwa, 1030

Shrivastava, Gyan S.

Estimation of Sustainable Yield of Some Rivers in

Shu, Shanzhi

see Lo, Irene M. C. Lo, 1480

Shugyo, Minoru

Elastoplastic Large Deflection Analisis of Three-Dimensional Steel Frames, 1207

Shui, Lee Teang

see Ali, Md. Hazrat, 859

Shultzaberger, Laurel

see deMonsabert, Sharon, 943

Shuster, Laurie A.

Thinking Deep, 1554

Si, Weijian

see Li, Chunxiang, 290

Siddiqi, Khalid M.

see Brunso, Torkild P., P.E., 211

Siddiquee, M. S. A.

see Tatsuoka, Fumio, 622

Sideris, Michael G.

see Fotopoulos, Georgia, 1256

Siegel, Malcolm D.

see Thomson, Bruce M., 500

Silva, L. A. P.

Rotational Stiffness of Rectangular Hollow Sections Composite Joints, 1131

Silvagni, G.

see Federico, F., 663

Silvestre, O. B., Jr.

see Parreira, A. B., 556

Sim, Yin-Chew

see Hassim, S., 238

Simiu, Emil

Wind Speeds in ASCE 7 Standard Peak-Gust Map: Assessment, 1125

see Coles, Stuart, 420

Simms, John

see Hallam, Nicholas B., 1387

Simões, G. F.

see Galvão, T. C. de Brito, 554

Simon, Andrew

see Shields, F. Douglas, Jr., 754

Simonovic, Slobodan P.

Methodology for Assessment of Climate Change Impacts on Large-Scale Flood Protection System,

Simpson, Angus R.

see Maier, Holger R., 1399

see Vítkovský, John P., 1423

Simunek, Jirka

see Abbasi, Fariborz, 867

Singh, Amardeep

see Kayhanian, Masoud, 558

Singh, Amarjit

see Taam, Thomas M. C., 1081

Singh, Joginder

see Kumar, Ranvir, 905

Singh, Mahendra P.

Seismic Analysis and Design with Maxwell Dampers,

Singh, Prabhjeet

see Civjan, Scott A., 1229

Singh, Rajesh P.

Optimal Design of Multidiameter, Multioutlet Pipelines, 1401

see Mahar, Pooran S., 910

Singh, Siw S.

see Naik, Tarun R., 1008

Singh, Sushil K.

Dispersion Coefficient of Streams from Tracer Experiment Data, 506

Explicit Estimation of Aquifer Diffusivity from Linear Stream Stage, 742

Flow Depletion of Semipervious Streams Due to Pumping, 907

Storage Coefficient and Transmissivity from Residual Drawdowns, 759

Treatment of Stagnant Zones in Riverine Advection-Dispersion, 743

see Swamee, Prabhata K., 801

Singh, V. P.

Entropy-Based Parameter Estimation for Kappa Distribution, 808

see Ojha, C. S. P., 748

see Wang, G.-T., 828

Singh, Vivek

Hydrologic Impacts of Distrubed Lands Treated with Dust Suppressants, 830

Sinha, B. P.

see Theodossopoulos, D., 66

Sinha, Kumares C.

Sustainability and Urban Public Transportation (Twelfth Francis C. Turner Lecture), 1323

see Labi, Samuel, 1364

Siragy, E. F.

see Graham-Brady, L. L., 397

Siriwardane, Hema J.

Use of Waste Materials for Control of Acid Mine Drainage and Subsidence, 549 Sisk, G. M.

Designer Centered Development of GA-Based DSS for Conceptual Design of Buildings, 143

Sitharam, T. G.

see Jade, Sridevi, 16

Sitzmann, Dieter

see Koussis, Antonis D., 799

Sivakumar, PL.

Automated Path Planning of Cooperative Crane Lifts Using Heuristic Search, 147

Skelton, Paul M., P.E.

see Coates, Andrew C., P.E., 1583

Skelton, R. E.

see Camino, Juan F., 1179

Skipworth, Peter J.

see Saul, Adrian J., 724

see Tait. Simon J., 726

Sloan, S. W.

see Merifield, R. S., 602

Sloan, Scott W.

see Augarde, Charles E., 597

sloan, Scott W.

see Ukritchon, Boonchai, 648

Smart, Graeme

see Yu, Guoliang, 788

Smart, Jason V.

Potential Thermal Degradation of Attic Framing and Wood Sheathing, 1514

Smith, Anne

see Culp, Gordon, 914

Smith, Brian L.

Characterization of Freeway Capacity Reduction Resulting from Traffic Accidents, 1326

Freeway Traffic Flow Rate Measurement: Investigation into Impact of Measurement Time Interval, 1310

Smith, Christy L.

see Thomson. Bruce M., 500

Smith, David A.

Settling Characteristics of Calcareous Sand, 745

Smith, David W.

see Li. Jie. 13

Smith, Eric

see Shabman, Leonard, 1409

Smith, Ernest R.

see Wang, Ping, 1432

Smith, I.

see Gong, M., 971

Smith, Ian

Load and Resistance Factor Design of Timber Joints: International Practice and Future Direction, 3

Smith, Ian F. C.

see Domer, Bernd, 140

see Domer, Bernd, 1149

see Fest, Etienne, 1134

Smith. Jim

see Love, Peter E. D., 956

Smith, Ronald

Advection Tests of Optimal Compact Implicit Scheme,

Smith, Stephanie

see Hsieh, William W., 1394

Smither, Lee

Managing Employee Life Cycles to Improve Labor Retention, 913

Smittakorn, Watanachai

Adaptive Wood Composite: Experiment, 1152

Smout, I.K.

see Gorantiwar, S. D., 876

Snijder, H. H.

see Hoenderkamp, J. C. D., 1146

Snyder, Frank

see deMonsabert, Sharon, 943

Snyder, S.

Analytical Methods used to Measure Endocrine Disrupting Compounds in Water, 1486

Sobanjo, John O.

see Thompson, Paul D., 110

Sobey, Rodney J.

Evaluation of Numerical Models of Flood and Tide Propagation in Channels, 4

Sobhan, Khaled

Fatigue Behavior of a Pavement Foundation with Recycled Aggregate and Waste HDPE Strips, 638

Mechanical Stabilization of Cemented Soil—Fly Ash Mixtures with Recycled Plastic Strips, 553

Socolofsky, Scott A.

Liquid Volume Fluxes in Stratified Multiphase Plumes, 786

Sodhi, Devinder S.

Crushing Ice Forces on Structures, 125

Soerens, Thomas S., P.E.

see Ghanem Ana 531

Sofialidis, Dimitrios

see Prinos, Panayotis, 767

Soga, K.

Centrifuge Modeling of Nonaqueous Phase Liquid Movement and Entrapment in Unsaturated Layered Soils, 595

see Au. S. K. A., 603

Soh, C. K.

see Gho, W. M., 1086

Soh, Chee Kiong

Damage Model Based Reinforced-Concrete Element, 1005

Sohn, Jungyul

Retrofit Priority of Transport Network Links under an Earthquake, 1378

Soibelman, Lucio

Design Review Checking System with Corporate Lessons Learned, 251

Soize, C.

Random Uncertainties Model in Dynamic Substructuring using a Nonparametric Probabilistic Model, 333

Uncertain Dynamical Systems in the Medium-Frequency Range, 393

Solomatine, D. P.

see Bhattacharya, B., 1421

Son, Duong Hong

Modeling Approach to Periphyton and Nutrient Interaction in a Stream, 541

Sonebi, M.

see Al-Tamimi, A. K., 1003

Song, Byung-Woong

see Yasuhara, Kazuya, 649

Song, Chung R.

see Voyiadjis, George Z., 33

Song, Junho

Bounds on System Reliability by Linear Programming,

Song, S.-H.

see Wen, Y. K., 1090

Song, Shin-Tai

Live-Load Distribution Factors for Concrete Box-Girder Bridges, 103

Songer, Anthony

see Molavi, Jeffrey M., 62

Sorathia, U.

see Karbhari, V. M., 182

Sorial, George A.

see Doppalapudi, Rajesh B., 465

Sorvari, Jaana

By-Products in Earth Construction: Environmental Assessments, 548

Parallel Processing Techniques in Structural Engineering Applications, 1252

Sotelino, Elisa D.

see Teng, Ming-Hung, 166

Sotiropoulos, Fotis

see Chrisohoides, Antonis 710

Sou. In Mei

see Cowen, Edwin A., 403

Soudki, K. A.

see Harajlı, M. H., 173

Soudki, Khaled

Bond Behavior of Corroded Steel Reinforcement in Concrete Wrapped with Carbon Fiber Reinforced Polymer Sheets, 1004

Soudki, Khaled A.

see El Maaddawy, Tamer A., 964

Soulsby, Richard

see Damgaard, Jesper, 766

Sourell, H.

Performance of Rotating Spray Plate Sprinklers in Indoor Experiments, 900

Sozen, Mete A.

see Matamoros, Adolfo B., 1115

Sozen, Mete A., P.E.

see Mlakar, Paul E., P.E., 1549

see Mlakar, Paul E., P.E., 1629

Spaan, G. B. H.

Discharge Formulas of Crump-De Gruyter Gate-Weir for Computer Simulation, 888

Spainhour, Lisa K.

see Wootton, Isaac A., 193

Spanos, Pol D.

Spectral Approach to Equivalent Statistical Quadratization and Cubicization Methods for Nonlinear Oscillators, 287

Sparks, Peter

see Davidson, Rachel A., 1522

Sparks, Peter R.

Exaggeration of Wind Conditions in Hurricane Floyd and Other Tropical Cyclones, 1521

Spencer, Billie F., Jr.

see Jung, Hyung-Jo, 1168

Speth, Thomas

see Verstraeten, Ingrid M., 1489

Spielvogel, Lawrence G., P.E.

see Gilbert, Paul. H., P.E., 845

Spira, Yvonne

see Pichler, Christian, 387

Sreevidya, S.

Aesthetic Appraisal of Antenna Towers, 65

Srivastava, Rajesh

Aquifer Response to Linearly Varying Stream Stage,

Stacey, Mark T.

see Rueda, Francisco J., 701

Stakhiv, Eugene Z., ed.

see Haimes, Yacov Y., ed., 1636

Stallings, J. Michael

see Park, Jong S., 1228

Stankovic, Miomir

see Trajkovic, Slavisa, 908

Stark, Timothy D.

see Olson, Scott M., 647

Stark, William R. see Stroh, Steven L., P.E., 1581

Starnes, Monica A.

Preliminary Thermography Studies for Quality Control of Concrete Structures Strengthened with Fiber-Reinforced Polymer Composites, 992

Staub-French, Sheryl

An Ontology for Relating Features with Activities to Calculate Costs, 151

Steele, James D., P.E.

Tapping the Desert, 1560

Steenhuis, Tammo S.

see Walter, M. Todd, 822

Stefan, Heinz G.

see Higashino, Makoto, 495

see Manous, Joe D., Jr., 1416

Steffens, Alexander

Aging Approach to Water Effect on Alkali-Silica Reaction Degradation of Structures, 289

Stein, Steven G. M.

Here Comes the Judge—Duties and Responsibilities of Design Proffessionals When Deciding Disputes,

Steinberg, Eric

Connectors for Timber-Lightweight Concrete Composite Structures, 1237

Steinberg, Laura J.

see Zheng, Wei, 450

Steinemann, Anne

Implementing Sustainable Development through Problem-Based Learning: Pedagogy and Practice, 1079

Steiner, Alexandre Arns

see Fill, Heinz Dieter, 840

Stenger, Frank

see Chambers, Janice J., 1122

Stenstrom, Michael K.

see Tzeng, Chwen-Jeng, 489

Stephenson, Kurt

see Bosch, Darrell J., 1390

Sterling, Raymond

see Saber, Aziz, 855

Sterpi, Donatella

Effects of the Erosion and Transport of Fine Particles due to Seepage Flow, 22

Stetson, Kevin P.

see Benoît, Jean, 692

Stewart, James

see Kumar, Sanjeev, 279

Stewart, Jonathan P.

see Kim, Seunghyun, 610

Stewart, Mark G.

Hurricane Risks and Economic Viability of Strengthened Construction, 1519

Multiple Limit States and Expected Failure Costs for Deteriorating Reinforced Concrete Bridges, 116

Stitt, Steven

see Yi, Jaeeung, 1415

Stiver, W. H.

see Harper, B. M., 532

Stockstill, Richard L.

Mooring Model Coefficients for Barge Tows in a Navigation Lock, 1454

Stoesser, T.

see Wilson, C. A. M. E., 780

Stoffels, Shelley M., P.E.

see Lee, Seung Woo, 1336

Stokoe, K. H., II

see Kalinski, M. E., 629

Stoppel, Chris M.

Modeling Pd-Catalyzed Destruction of Chlorinated Ethenes in Groundwater, 459

Stouffer, W. B.

see Russell, Jeffrey S., 1080

Stovin, Virginia

see Adamsson, Asa, 521

Stow, Craig A.

Comparison of Estuarine Water Quality Models for Total Maximum Daily Load Development in Neuse River Estuary, 1407

see Borsuk, Mark E., 1404

Stratford, Tim

Shear Analysis of Concrete with Brittle Reinforcement,

Strelkoff, T. S.

see Bautista, E., 873

see Clemmens, A. J., 763

see Clemmens, A. J., 902

Strelkoff, Theodor S.

Two-Dimensional Basin Flow with Irregular Bottom Configuration, 901

Strelkoff, Theodore S.

see Abbasi, Fariborz, 867

Strganac, Thomas

see Kurdila, Andrew J., 55

Stroh, Steven L., P.E.

First of Its Kind, 1581

Stuart, Kevin D.

see Azari, Haleh, 1347

Stubbs, Norris

see Kim, Jeong-Tae, 1217

Stuckey, David C.

see Aquino, Sérgio F., 561

Sture, Stein

see Alshibli, Khalid A., 625

Sturm, Terry W.

see Chrisohoides, Antonis, 710

Su, Cheng-Wei

see Cheng, Min-Yuan, 206

Su. G. H.

see Xiang, Y., 358

Su, Mubiao

see Li, Jianzhong, 93

Suarez-Rey, Elisa M.

see Enriquez, Carlos, 543

Subbarao, B. V. V.

see Sundar, V., 1430

see Guildan, v., t-t.

Subramanian, N.

see Sreevidya, S., 65

Subrenat, Albert

Thermal Behavior of Activated Carbon Cloths Heated by Joule Effect, 569

Suda, Ken-ichi

see Satake, Naoki, 1129

Sudheer

Sudheer, K. P.

Estimating Actual Evapotranspiration from Limited Climatic Data using Neural Computing Technique, 883

Radial Basis Function Neural Network for Modeling Rating Curves, 816

Suen, Jian-Ping

Evaluation of Neural Networks for Modeling Nitrate Concentrations in Rivers, 1425

Suer, Pascal

Mercury-Contaminated Soil Remediation by Iodide and Electroreclamation, 494

Sugimoto, M.

Pullout Behavior of Geogrid by Test and Numerical Analysis, 613

Sujatha, V.

Energy Release Rate due to Friction at Bimaterial Interface in Dams, 370

Sukhera, Fayyaz A.

see Ogunlana, Stephen O., 257

Sulapha, P.

Carbonation of Concrete Containing Mineral Admixtures, 976

Sulisz, Wojciech

Numerical Modeling of Wave Absorbers for Physical Wave Tanks, 1428

Sultan, M. A.

see Kodur, V. K. R., 972

see Kodur, V. K. R., 1111

Sumer, B. Mutlu

Influence of Turbulence on Bed Load Sediment Transport, 755

Sun, Carlos C.

see Cleary, Douglas B., P.E., 1063

Sun, G

see Pao. Y .- H., 320

Sun, Lixun

see Ling, Hoe L., 685

Sun, Lu

Empirical-Mechanistic Method-Based Stochastic Modeling of Fatigue Damage to Predict Flexible Pavement Cracking for Transportation Infrastructure Management, 1296

Sundar, V.

Hydrodynamic Performance Characteristics of Quadrant Front-Face Pile-Supported Breakwater, 1430

Sundaravadivelu, R.

see Alagusundaramoorthy, P., 365

Sunderland, Kelly, P.E.

see Khoury, Oscar A., P.E., 1551

Sung, S. S.

see Annadurai, G., 511

Sung, Shihwu

see Chen, Wen-Hsing, 502

Sung, Windsor

Incorporating Reservoir Transfer into Treatment Optimization Decisions, 486

2003 ASCE TRANSACTIONS

Sunkpho, Jirapon

Java Inspection Framework: Developing Field Inspection Support Systems for Civil Systems Inspection, 149

Surampalli, R. Y.

see Shen, S. B., 503

see Shen, S. B., 1468

Suverkropp, Claus

see Kayhanian, Masoud, 558

Suzuki, Masaki

see Shi, Zihai, 1117

Suzuki, Michiya

see Caires, Julie P., 578

Suzuki, Yoshinori

Airport Choice, Leakage, and Experience in Single-Airport Regions, 1308

Swaddiwudhipong, S.

see Sulapha, P., 976

Swaddiwudhipong, Somsak

Prepacked Grouting Process in Concrete Construction, 1029

Swamee, Prabhata K.

Estimation of Aquifer Diffusivity from Stream Stage Variation, 801

Swan, Colby C.

see Rahmatalla, Salam, 1253

Sweetman, Bert

Non-Gaussian Air Gap Response Models for Floating Structures, 317

Swoboda, Gunter

see Xiang, Zhihai, 32

Symans, Michael D.

see Twitchell, Brian S., 441

Szafranski, Michael J.

see Mueller, Sherry A., 1478

Szidarovszky, Ferenc

see Coppola, Emery, Jr., 838

Szilagyi, Jozsef

State-Space Discretization of the Kalinin-Milyukov-Nash-Cascade in a Sample-Data System Framework for Streamflow Forecasting, 837

Szlag, David

see Thurston, Hale W., 1417

Taam, Thomas M. C.

Unabsorbed Overhead and the Eichleay Formula, 1081

Tabet-Aoul, El-Hafid

Tentative New Formula for Maximum Horizontal Wave Forces Acting on Perforated Caisson, 1431

Tadanier, Christopher J.

Modeling Uncoupled Solute Transport in Natural Organic Matter Size Fractionation by Ultrafiltration,

Tadeu, António J. B.

see Branco, Fernando J. F. G., 1031

Tagami, Jun

see Kurino, Haruhiko, 1170

Taher-shamsi, Ahmad

see Ponce, Victor M., 772

see De Sutter, Renaat, 727

Tait, Simon J.

Modeling In-Sewer Deposit Erosion to Predict Sewer Flow Quality, 726

see Rushforth, Peter J., 725

see Saul, Adrian J., 724

Takyi, A. K.

see Ibrahimi, F., 563

Talbert, Matthew

Combining Service Learning with Graduate Education,

Talbot, Robert P., P.E.

see Gruhn, Arthur W., P.E., 1587

Tam. C. M.

see Zeng, S. X., 951

see Zhang, Hong, 131

Tam, Vivian W. Y.

see Zeng, S. X., 951

Tamaro, George J., P.E.

Holding Up, 1578

Tamaro, Mark, P.E.

see Mariani, T. F., P.E., 1564

Tamimi, Akrum H.

see Strelkoff, Theodor S., 901

Tamura, Yukio

see Satake, Naoki, 1129

Tan, Chan Lim

see Maier, Holger R., 1399

Tan, J. Y.

see Chan, Weng Tat, 858

Tan. K. H.

Fire Resistance of Four-Face Heated Reinforced Concrete Columns, 1203

see Huang, Z. F., 1236

see Vimonsatit, V., 1092

see Vimonsatit, V., 1148

see Zhang, J., 1366

Tan, Siew-Ann

Clogging Evaluation of Permeable Bases, 1320

Tan. W. T.

see Chua, D. K. H., 212

Tanaka, Mitsura

see Kikuchi, Shinya, P.E., 1300

Tang, C. A. see Li, L., 20

Tang, Chao-Wei

Modeling Confinement Efficiency of Reinforced Concrete Columns with Rectilinear Transverse Steel using Artificial Neural Networks, 1160

Tang, Conrad H. W.

see Lam, Steve Y. W., 1279

Tang, J.

see Luo, Q. Z., 1098

Tang, Jingpeng

see Katti, Dinesh R., 605

Tang, K. H.

see Chang, C. C., 98

Tang, S. L.

Achieving Client Satisfaction for Engineering Consulting Firms, 958

see Lu, Ming, 259

Tang, Taiping

Behavior of Concrete Beams Strengthened with Fiber-Reinforced Polymer Laminates under Impact Loading, 180

Comparison of Four Modeling Techniques for Short-Term AADT Forecasting in Hong Kong, 1315

Tang, Yongming

see Smith, Ronald, 736

Tang, Yu

Numerical Evaluation of Uniform Beam Modes, 439

Tardieu, Eric

see Xing, Chuan-Hong, 477

Tarefder, R. A.

Formulation of Mix Design for Asphaltic Incorporation of Hydrocarbon Contaminated Soil, 980

Task Committee on Fiber-Reinforced Composite Structures for Overhead Lines of the Structural Engineering Institute of the American Society of Civil Engineers

Recommended Practice for Fiber-Reinforced Polymer Products for Overhead Utility Line Structures, 1634

The Task Committee on the State of the Art in Long-Term Groundwater Monitoring Design of the Environmental and Water Resources Institute

Long-Term Groundwater Monitoring: The State of the Art. 1625

Tatsuoka, Fumio

Modeling the Stress-Strain Relations of Sand in Cyclic Plane Strain Loading, 622

Tatum, C. B., P.E.

see Korman, Thomas M., P.E., 268

Tavakkolizadeh, M.

Fatigue Strength of Steel Girders Strengthened with Carbon Fiber-Reinforced Polymer Patch, 1104

Repair of Damaged Steel-Concrete Composite Girders using Carbon Fiber-Reinforced Polymer Sheets, 190

Strengthening of Steel-Concrete Composite Girders using Carbon Fiber Reinforced Polymers Sheets, 1087

Tavakolie, Arash

see Sayed, Tarek, 139

Tay, Joo-Hwa

Influence of COD:N:P Ratio on Nitrogen and Phosphorus Removal in Fixed-Bed Filter, 476

Thermal Stabilization of Iron-Rich Sludge for High Strength Aggregates, 1030

see Show, Kuan-Yeow, 1001

Taylor

Taylor, Steve, P.E.

see Rogers, Cranston R., P.E., 1584

Teague, T. L.

XML for Capital Facilities, 920

Teh C I

see Goh, A. T. C., 616

Tejeda, Ignacio

Numerical Modeling of Saline Intrusion in Salar de Atacama, 802

Teng. J. G.

see Chen, J. F., 1144

Teng, Ming-Hung

Performance Evaluation of Reinforced Concrete Bridge Columns Wrapped with Fiber Reinforced Polymers, 166

Teng, Xiaoqing

Interactive Failure of Two Impacting Beams, 383

Tepfers, Raleis

see De Lorenzis, Laura, 181

Textor, G. Nicholas, P.E.

Making the Transition, 1566

Tham, L. G.

see Chen, Z. H., 37

see Li. L., 20

see Zhang, L. Q., 431

Tham, Leslie George

see Yuan, Jian-Xin, 26

Theis, Thomas L.

Systems Analysis of Pump-and-Treat Groundwater Remediation, 1481

Thelandersson, Sven

see Jeppsson, Joakim, 1219

Then, Danny Shiem-Shin

Integrated Resources Management Structure for Facilities Provision and Management, 1040

Theodossopoulos, D.

Case Study of the Failure of a Cross Vault: Church of Holyrood Abbey, 66

Thiagarajan, Ganesh

Experimental and Analytical Behavior of Carbon Fiber-Based Rods as Flexural Reinforcement, 164

Thoma, G. J., P.E.

see Ghanem, Ana, 531

Thomas, Fridtjof

Statistical Approach to Road Segmentation, 1319

Thomas, H. Randolph

Improving Labor Flow Reliability for Better Productivity as Lean Construction Principle, 227

No-Damages-for-Delay Clause: Evaluating Contract Delay Risk, 1083

Role of Workforce Management in Bridge Superstructure Labor Productivity, 939

see Minchin, R. Edward, Jr., 197

Thomas, S. J.

Cross-Sectional Compactness and Bracing Requirements for HPS483W Girders, 1240 2003 ASCE TRANSACTIONS

Thomas, W. O., Jr.

see Durrans, S. R., 818

Thomas, Wilfred H.

Models for Concentrated Load Performance Assessment of Isotropic Wood Floor Sheathing, 1188

Thomé Antônio

see Consoli, Nilo C., 669

Thompson, Paul D.

Florida DOT Project-Level Bridge Management Models, 110

Thompson, Stephen M.

Duration of Probable Maximum Precipitation on Lake Catchments: Alternative Analysis, 819

Thomson, Bruce M.

Design and Operation of Point-of-Use Treatment System for Arsenic Removal, 509

Removal of Metals and Radionuclides using Apatite and Other Natural Sorbents, 500

Thorne, A.

see Hulatt, J., 172

Thurston, Hale W.

Controlling Storm-Water Runoff with Tradable Allowances for Impervious Surfaces, 1417

Tiberius, Christian

Variance Component Estimation and Precise GPS Positioning: Case Study, 1257

Tilley, Chris

see Rasdorf, William, P.E., 134

Timbe, Luis

see De Biévre, Bert, 871

Timmerman, Anthony

see El-Sadek, Alaa, 864

Tindal, Troy T.

Thermal Effects on Skewed Steel Highway Bridges and Bearing Orientation, 77

Ting, Francis C. K.

see Johnson, Kent R., 338

Ting, S. K.

see Vimonsatit, V., 1092

see Vimonsatit, V., 1148

Tiong, Robert

see Zhang, Ning, 263

Tiong, Robert L. K.

see Bakatjan, Sandalkhan, 208

see Ye, Sudong, 266

Tischer, Thomas E., P.E.

Bridge Falsework Productivity—Measurement and Influences, 226

Titi, Hani, P.E.

Long-Term Performance of Stone Interlayer Pavement, 1297

Tiwari, Piyush

Sustainable Practices to Meet Shelter Needs in India, 1371

AUTHOR INDEX

Tsopelas

Tixier, Raphaël

Modeling of Damage in Cement-Based Materials Subjected to External Sulfate Attack. 1: Formulation,

Modeling of Damage in Cement-Based Materials Subjected to External Sulfate Attack. II: Comparison with Experiments, 998

To, Albert C.

Lateral Load Capacity of Drilled Shafts in Jointed Rock, 646

Tobiason, John, P.E. see Ahlfeld, David, P.E., 792

Todorovic, Branimir see Traikovic, Slavisa, 908

Tokat, Enis see Pala, Avsegul, 568

Tom, V. M.

Transit Route Network Design using Frequency Coded Genetic Algorithm, 1305 Tomasicchio, Giuseppe R.

Armor Stone Abrasion due to Displacements in Sea Storms, 1453

Tong, D. J. see Li, Q. M., 400 Tong, Mai

see Liu, Wei, 138 Tonni, Laura

see Gottardi, Guido, 1526 Tonuk, Gulseven Ubay

see Zitomer, Daniel Harris, 456 Toprak, Selcuk

Torbica, Željko M. see Ahmed, Syed M., 237

Toro-Escobar, Carlos M. see Parker, Gary, 784

Torres, Helga N. see Abudayyeh, Osama, P.E., 214

Torres-Acosta, Andrés A.
Residual Life of Corroding Reinforced Concrete Structures in Marine Environment, 1002

Liquefaction Potential Index: Field Assessment, 609

Touran, Ali Probabilistic Model for Cost Contingency, 230

Toussant, Jeffrey P., P.E.
Environmental Impacts to Design/Build Projects—A
Case Study of the St. George Island Bridge Replacement. Apalachicola Bay, Florida, 926

Townsend, F. C. see Anderson, J. B., 596

Tozluk, Hasan see Muslu, Yilmaz, 899

Trahair, N. S.

Lateral Buckling Strengths of Steel Angle Section
Beams, 1161

Trajkovic, Slavisa

Forecasting of Reference Evapotranspiration of Artificial Neural Networks, 908

Trejo, David

Alternative Cap Materials for Evaluating the Compressive Strength of Controlled Low-Strength Materials, 1019

Tremblay, R.

Seismic Response of Concentrically Braced Steel Frames Made with Rectangular Hollow Bracing Members, 1245

Tremblay, Robert

see Chicoine, Thierry, 1099 see Essa, Hesham S., 1248

see Rogers, Colin A., 1246

see Rogers, Colin A., 1247

Trethewey, Martin W. see Hanagan, Linda M., 1049

Triantafillou, Thanasis C. see Antonopoulos, Costas P., 161

Trost, Steven M.

Predicting Accuracy of Early Cost Estimates using Factor Analysis and Multivariate Regression, 220

Trouw, Koen see Berlamont, Jean E., 765

Tsai, Chirstina W.-S. see Markus, Momcilo, 474

Tsai, Christina W.

Applicability of Kinematic, Noninertia, and Quasi-Steady Dynamic Wave Models to Unsteady Flow Routing, 757

Tsai, Chuen-Jinn see Lu, Hsin-Chung, 538

Tsai, Fang-Wu see Lien, Hui-Pang, 795

Tsai, Frank T-C. see Barros, Mario T. L., 1397

Tsai, Min-Hsiu see Cheng, Min-Yuan, 210

Tsai, Ya-Wen

see Chang, Andrew Shing-Tao, P.E., 249

Tsakopoulos, Paul A.
Full-Scale Fatigue Tests of Steel Orthotropic Decks for the Williamsburg Bridge, 108

see Hsu, Tai-Wen, 434
Tse, Raymond Y. C.

see Chan, Edwin H. W., 239

Tseng, Chung-Li see Zhao, Tong, 850

Tsay, Ting-Kuei

Tsolas, Ioannis E.
Sustainability Indices of Thermal Electrical Power Production in Greece, 463

Tsopelas, Panos see Ruzzene, Massimo, 389

Tsui

2003 ASCE TRANSACTIONS

Tsui, Y.

Tsui, Yuet

see Yuan, Jian-Xin, 26

Tu, Hung-Hsu

see Weng, Chih-Huang, 1464

Tu, Ming-Yen

Optimization of Reservoir Management and Operation with Hedging Rules, 1388

Tucciarelli, T. see Bascià. A., 734

see Criminisi, A., 1384

Tugun, Hazim

Natural Stabilization of Stored Industrial Sludges, 472

Tumay, Mehmet

see Abu-Farsakh, Murad, 29

Tumialan, j. Gustavo

Field Assessment of Unreinforced Masonry Walls Strengthened with Fiber Reinforced Polymer Laminates, 1185

Turan, G.

see Dyke, S. J., 1167

Turan, Mustafa

see Armagan, Bulent, 527

Turpin, Malcolm Great Hall, 1579

Turral, Hugh

see Khanna, Manoj, 893

see Khanna, Manoj, 894

Tutumluer, Erol, ed.

Recent Advances in Materials Characterization and Modeling of Pavement Systems, 1633

Twidwell, Dirac L.

see Huang, Yue-wern, 1488

Twitchell, Brian S.

Analytical Modeling, System Identification, and Tracking Performance of Uniaxial Seismic Simulators,

Tvagi, A.

see Chua, D. K. H., 271

Tyagi, R. D.

see Shen, S. B., 503

see Shen, S. B., 1468

Tyagi, Rajeshwar Dayal see Meunier, Nathalie, 525

Tzeng, Chwen-Jeng

Modeling and Control of Oxygen Transfer in High Purity Oxygen Activated Sludge Process, 489

Tzeng, Gwo-Hshiung

see Opricovic, Seratim, 1524

Tzenkov, Tzenko

Geometric Analysis of Geodetic Data for Investigation of 3D Landslide Deformations, 1527

Uang, Chia-Ming

Effects of Finish Materials and Dynamic Loading on the Cyclic Response of Woodframe Shearwalls, 1221

see Gatto, Kip, 1220

see McDaniel, Cole C., 1163

Uchiyama, Manabu

Nonlinear Buckling Simulations of Imperfect Chell Domes by Mixed Finite Elements, 361

Uddameri, Venkatesh

Using the Analytic Hierarchy Process for Selecting an Appropriate Fate and Transport Model for Risk-Based Decision-Making at Hazardous Waste Sites, 1476

Udoeyo, Felix F.

Maize-cob Ash as Filler in Concrete, 985

Ueda, Tamon

see Mirmiran, Amir, 1073

Ugwu, O. O.

see Ren, Z., 145

Ukritchon, Boonchai Calculations of Bearing Capacity Factor d_v using

Numerical Limit Analyses, 623 Undrained Stability of Braced Excavations in Clay, 648

Ulanicki, Bogumil

see Prescott, Simon L., 775

Ulmer, Jared M.

see Smith, Brian L., 1310

Ünlü, Kahraman

see Yilmaz, Olcay, 485

Uno, Nobuhiro

see Kikuchi, Shinya, P.E., 1300

Usmani, A. S.

see Theodossopoulos, D., 66

Uy, Brian

see Mursi, Mohanad, 1145

Vaishya, Rakesh Chandra

Arsenic Removal from Groundwater by Iron Impregnated Sand, 453

Val, Dimitri V.

Reliability of Fiber-Reinforced Polymer-Confined Reinforced Concrete Columns, 1193

see Stewart, Mark G., 116

Valanis, Kirk C.

Elasticity of Space-Time: Basis of Newton's 2nd Law of Motion, 395

Valdés, Juan B.

see González, Javier, 827

see Kim, Tae-Woong, 826

see Kim, Tae-Woong, 835

Valdez, Hector E.

see Chini, Abdol R., 946

Valdivia, Richard M.

see Whelton, Andrew J., 1595

Valenzuela-Solano, Cesar

see Crohn, David M., 576

Valiantzas, John D.

Explicit Hydraulic Design of Microirrigation Submain Units with Tapered Manifold and Laterals, 884

Inlet Pressure, Energy Cost, and Economic Design of Tapered Irrigation Submains, 870

Vallero, Daniel A.

Teachable Moments and the Tyranny of the Syllabus: September 11 Case, 1068

Valougeorgis, D.

see Papaspyrou, S., 429

Valsangkar, A. J.

see Bischoff, Peter H., 1498

Van Arsdale, Roy

Impact of River Channelization on Seismic Risk: Shelby County, Tennessee, 1518

van de Lindt, John W.

Development and Application of Wood Shear Wall Reliability Model, 1124

van der Lem, J. C.

see van der Molen, W., 1429

van der Molen, W.

Behavior of a Moored LNG Ship in Swell Waves, 1429

Van Dessel, Steven

Feasibility and Optimization of Rigidified Inflatable Structures for Housing, 1232

Feasibility of Rigidified Inflatable Structures for Housing, 57

van Genuchten, M. Th.

see Abbasi, Fariborz, 867

see Abbasi, Fariborz, 885

van Nooyen, R. R. P.

see Spaan, G. B. H., 888

Van Ooyen, Kristi see Horton, Richard, P.E., 1598

Vanderford, B.

see Snyder, S., 1486

Vangelas, Karen M.

see Looney, Brian B., 539

Vanier, Dana J.

see Hassanain, Mohammad A., 1042

VanMarcke, Erik, ed.

Probabilistic Site Characterization at the National Geotechnical Experimentation Sites, 1632

Varadarajan, A.

Testing and Modeling Two Rockfill Materials, 598

Varghese, Koshy

see Sivakumar, PL., 147

Varma, Ashok, P.E.

see Ryburn, David, 1565

Vasquez, Alvaro

see Seim, Werner, 1157

Vatsa, Krishna S.

Disaster Management Plan for the State of Maharashtra, India: Evolutionary Process, 1542

Vecchio, Frank J.

see Sato, Yuichi, 1154

Vedula, S.

see Jairaj, P. G., 877

Vendruscolo, Márcio Antonio

see Consoli, Nilo Cesar, 587

Venkatachalam, K.

see Varadarajan, A., 598

Venkatakrishnan, Ramesh

see Glazier, Robert, 1567

Venkatanarayana, Ramkumar

see Smith, Brian L., 1326

Verhoest, Niko E. C.

see Pauwels, Valentijn R. N., 869

Verhoeven, Ronny

see De Sutter, Renaat, 727

Verma, D. V. S.

Development of Efficient Stilling Basins for Pipe Outlets, 880

Verma, Navin. P.

see Singh, Mahendra P., 314

Verstraeten, Ingrid M.

Occurrence of Endocrine-Disrupting and Other Wastewater Compounds during Water Treatment with Case Studies from Lincoln, Nebraska and Berlin, Germany, 1489

Vian, Darren

Tests to Structural Collapse of Single Degree of Freedom Frames Subjected to Earthquake Excitations, 1250

Viana, Cláudia de Sanctis

Erosion Hazards Index for Lateritic Soils, 1528

see Galvão, T. Cássia de Brito, 1530

Vieux, Baxter E.

see Bedient, Philip B., 834

Vijalapura, P. K.

see Conte. J. P., 430

Vilar, Orencio Monie

see Marques, Afonso Celso Moruzzi, 614

Vilem, Mark, P.E.

see Aldrich, John, P.E., 1597

Villeneuve, Jean-Pierre

see Pelletier, Geneviève, 1391

Vilnay, O.

see Volokh, K. Yu., 303

Vimonsatit, V.

Nonlinear Elastoplastic Analysis of Semirigid Steel Frames at Elevated Temperature: MP Approach, 1148

Plastic Limit Temperatures of Flexibly Connected Steel Frames: A Linear Programming Problem, 1092

Vinogradov, O.

Numerical Investigation of Statistical Properties of Microslips in Silos, 352

Vipulanandan, C.

see Liu, J., 331

Virtuoso, Francisco

see Andrade, Jorge C.-R., 144

Visbal

2003 ASCE TRANSACTIONS

Visbal, Miguel R.

see Gordnier, Raymond E., 54

Visser, Stephen J.

FPGA Based Satellite Adaptive Image Compression System, 52

Vítkovský, John P.

Optimal Measurement Site Locations for Inverse Transient Analysis in Pipe Networks, 1423

Vlasblom, W. J.

see Dekker, M. A., 1450

Vogel, Dianne C.

see Theis, Thomas L., 1481

Vogel, Jason R.

see Verstraeten, Ingrid M., 1489

Vogel, Richard M.

see Westphal, Kirk S., 1396

Voigt, Thomas

Determination of Early Age Mortar and Concrete Strength by Ultrasonic Wave Reflections, 990

Vojinovic, Zora

Hybrid Approach for Modeling Wet Weather Response in Wastewater Systems, 1426

Vokral, John, P.E.

Wetlands at Work, 1550

Volokh, K. Yu.

Dynamics of Cable Structures, 303

Volpi, F.

see Federico, F., 663

von Eckroth, Wulf

see Cosentino, Paul J., P.E., 1349

Vonnahme, Donald R., P.E.

see Changnon, Stanley A., 1381

Voulgaris, Petros G.

see Moon, Seok J., 291

Voyiadjis, George

see Abu-Farsakh, Murad, 29

Voyiadjis, George Z.

Determination of Hydraulic Conductivity using Piezocone Penetration Test, 33

Vucetic, Mladen

see Matešić, Leo. 630

Vukadin, Vladimir

see Likar, Jakob, 586

Vukazich, Steven M.

see Chai, Y. H., 1139

Waduge, W. A. P. see Soga, K., 595

Dee Dogai veii DAD

Waggoner, Mark, P.E.

see Ales, Joseph M., Jr.P.E., 1602

Wagner, Jean-Jacques

see Annen, Catherine, 1538

Wai, Onyx W. H.

see Chen. Y., 1457

Wakefield, Ron

see Walker, Mike, 922

Walata, Lindsey

see Glazier, Robert, 1567

Waldron, Brian

see Van Arsdale, Roy, 1518

Waldron, Peter

see El-Ghandour, Abdel Wahab, 184

Walesh, Stuart G., P.E.

Managing and Leading: 52 Lessons Learned for Engineers, 1626

Walker, Mike

Internet-Based Information Management for Production Builders, 922

Walker, Sharon A.

Comparison of Laboratory and Theoretical Internal Solitary Wave Kinematics, 1451

Walker, W. R.

see Ali, Md. Hazrat, 859

Walker, William W., Jr.

Consideration of Variability and Uncertainty in Phosphorus Total Maximum Daily Loads for Lakes, 1410

Walleisa, Julie

see Pollalis, Spiro, 919

Waller, Peter M.

see Colaizzi, Paul D., 862

see Colaizzi, Paul D., 863

Wallis-Lage, Cindy, P.E.

see Sandino, Julian, P.E., 1589

Walsh, J.

see Aberle, J., 698

Walsh, Kenneth D.

Cost-Benefit Analysis of Residential Energy-Efficiency Upgrades in Phoenix, Arizona, 58

Method for Forensic Analysis of Residential Floor-Elevation Data, 1047

see Bashford, Howard H., 235

Walter, Ivan A.

see Itenfisu, Daniel, 906

Walter, M. Todd

Simple Estimation of Prevalence of Hortonian Flow in New York City Watersheds, 822

Walter, Michael F.

see Walter, M. Todd, 822

Walters, Godfrey A.

see Bessler, Florian T., 1382

see Kapelan, Zoran S., 1422

Walubita, Lubinda F.

see Martin, Amy Epps, 1337

Walz, Matthew A.

see van de Lindt, John W., 1124

see van de Lindt, Wan, Chi Fai

see Fell, Robin, 608

Wang, C. M.

Buckling of Columns with Intermediate Elastic Restraint, 310

Stability Criteria for Euler Columns with Intermediate and End Axial Loads. 335

see Lee, Y. Y., 316 see Lim, C. W., 379

see Xiang, Y., 358

see Xiang, Y., 375

Wang, C. Y.

Effect of Base Fixity on Buckling of Heavy Column with End Load, 296

see Wang, C. M., 335

see Xiang, Y., 358

Wang, Chien-Chih see Hsieh, Hsii-Sheng, 592

Wang, Chi-Fang see Liu, Wen-Cheng, 1437

Wang, G.

Variable-Frequency Drive Applications in Nonmakeup-Air Exhaust Systems, 69

Wang, G.-T.

Nonlinear Convection-Diffusion Equation with Mixing-Cell Method for Channel Flood Routing, 828

Wang, H. J.

Jet Interaction in a Still Ambient Fluid, 729

Wang, Hongwei

see Law, Adrian Wing-Keung, 410

Wang, J. J.

see Au. F. T. K., 75

Wang, Jinling

see Ogaja, Clement, 1271 see Satirapod, Chalermchon, 1276

Wang, K. H.

see Williams, A. N., 284 Wang, Li-Xin

see Zhou, Li, 1171 Wang, Ming-Teh

Risk Allocation and Rish Handling of Highway Projects in Taiwan, 945

Wang, Min-Hui

see Jacobs, Jennifer M., 810

Wang, Ping

Beach-Profile Evolution under Spilling and Plunging Breakers, 1432

Wang, Sam S. Y.

see Chao, Xiaobo, 746 Wang, Tien-Chih

see Kodur, V. K. R., 1111

Wang, Xingzhe

see Zheng, Xiaojing, 311

Wang, Xu-Shenng

see Nie, Meng-Xi, 751

Wang, Y.

see Adams, C., 8

see Chua, D. K. H., 212

Wang, Yinhai

Can Single-Loop Detectors Do the Work of Dual-Loop Detectors?, 1303

Estimating Rear-End Accident Probabilities at Signalized Intersections: Occurrence-Mechanism Approach, 1328

Wang, Z. Y.

see Lam. S. S. E., 1156

Wang, Zhaomin

see Li. Chunxiang, 1178

Wang, Zhichao

see Desai, Chandra S., 24

Ward, David

see Bocchiola, D., 703

Wardhana, Kumalasari

Analysis of Recent Bridge Failures in the United States, 1051

Study of Recent Building Failures in the United States,

Wareham, D. G.

see Holman, J. B., 449

Warszawski, Abraham

Analysis of Costs and Benefits of Tall Buildings, 245

Wartman, Joseph

Inclined Plane Studies of the Newmark Sliding Block Procedure, 643

Watanabe, Kunio

see Aluwihare, Shriyangi, 577

Waterson, B. J.

Simulating the Impacts of Strong Bus Priority Measures, 1360

Watkins, Steve E.

see Nystrom, Halvard E., 938

Watson, Paul

see Woods, Eddie, 1603

Webb, Glenn

see Kurdila, Andrew J., 55

Weber, Larry J.

see Lai, Yong G., 712

see Lai, Yong G., 713

Webster, D. R.

Laser-Induced Fluorescence Measurements of a Turbulent Plume, 404

Wee, Chun Leong

see Cheu, Ruey Long, 1318

Wee, T. H.

see Sulapha, P., 976

Wehling, Timothy M.

Nonlinear Dynamic Properties of a Fibrous Organic Soil, 667

Wei, Yong

Inverse Algorithm for Tsunami Forecasts, 1434

Weir, Jennifer A.

see Ray, Malcolm H., P.E., 1291

Weisbin, Charles

see Manvi, Ram. 51

Welker

2003 ASCE TRANSACTIONS

Welker, Andrea L.

Calibration of Flow and Transport Model with a Bench-Scale Prefabricated Vertical Drain Remediation System, 585

Wen, D.

see Goh, A. T. C., 616

Wen, Y. K.

Structural Reliability/Redundancy under Earthquakes, 1090

Wendel, Tom, P.E.

see Mariani, T. F., P.E., 1564

Weng, Chih-Huang

Removal of Trichloroethylene from Clay Soil by Series-Electrokinetic Process, 1464

West, Jeffery S., P.E.

see Poston, Randall W., P.E., 1586

West, John R.

see Hallam, Nicholas B., 1387

Westerhoff, Paul

Reduction of Nitrate, Bromate, and Chlorate by Zero Valent Iron (Fe^o), 444

Westphal, Kirk S.

Decision Support System for Adaptive Water Supply Management, 1396

Westrich, Bernhard

see Dey, Subhasish, 696

Wey, Ming-Yen

see Liu, Zhen-Shu, 473

Whelton, Andrew J.

The Cyanic Threat, 1595

Whitaker, Aaron M.

see Womack, Kevin C., 615

White, B. see Goh, E. K. H., 517

White, Kenneth R., P.E.

see Jáuregui, David V., 95

Whitlow, Chris D.

see Crossley, Amanda J., 741

Whitman, Robert V., ed.

see Germaine, John T., ed., 1640

Whittle, Andrew J.

see Ukritchon, Boonchai, 623

see Ukritchon, Boonchai, 648

Whitty, E. B.

see Irmak, S., 898

Widdowson, Mark A.

see Robinson, Sandra L., 470

see Zoeckler, Jeff R., 520

Widjaja, Joko

Electrorheological and Magnetorheological Duct Flow in Shear-Flow Mode using Herschel-Bulkley Constitutive Model, 437

Wiederhold, Gio

see Liu, David, 148

Wierzbicki, Tomasz

see Teng, Xiaoqing, 383

Wilcock, Peter R.

Surface-Based Transport Model for Mixed-Size Sediment, 705

Wilcox, Roseanne

see Simiu, Emil, 1125

Wilkins, Daniel

see Pine, John C., 1541

Williams, A. N.

Flexible Porous Wave Barrier for Enhanced Wetlands Habitat Restoration, 284

Williams, Billy

see de Oliveira, Marcelo G. Simas, 1284

Williams, Billy M.

Modeling and Forecasting Vehicular Traffic Flow as a Seasonal ARIMA Process: Theoretical Basis and Empirical Results, 1363

Williams, Brea

Filament-Wound Glass Fiber Reinforced Polymer Bridge Deck Modules, 185

Williams, Gregory L., P.E.

Submerged Ordnance and Unrestrained Cylinder Movement in Coastal Zone, 1442

Williams, M. S.

see Neild, S. A., 1112

Williams, Trefor P., P.E.

Applying Handheld Computers in the Construction Industry, 1517

Modeling Dredging Project Cost Variations, 1459

Williamson, Eric B.

Evaluation of Damage and P-Δ Effects for Systems under Earthquake Excitation, 1184

Willson, S. M.

see Coop, M. R., 676

Wilmot, C. G.

Estimating Future Highway Construction Costs, 229

Wilson, C. A. M. E.

Open Channel Flow through Different Forms of Submerged Flexible Vegetation, 780

Validation of a Three-Dimensional Numerical Code in the Simulation of Pseudo-Natural Meandering Flows, 770

Wilson, John C.

Repair of New Long-Span Bridges Damaged by the 1995 Kobe Earthquake, 1056

Wilson, K. C.

Interaction of Particles and Near-Wall Lift in Slurry Pipelines, 700

Wind, H. G.

see de Blois, C. J., 1398

Winnicki, A.

see Pietruszczak, S., 363

Winterstein, Steven R.

see Sweetman, Bert, 317

Wipadapisut,Isr

see Schaufelberger, John E., 221

AUTHOR INDEX

Wise, William R.

see Martinez, Christopher J., 508

Wisniewski, Benjamin

Residential Floor Systems: Wood I-Joist Creep Behav-

Wissmann, Kord J.

Sheet Pile Tensions in Cellular Structures, 600

Woeste, Frank E., P.E.

see Smart, Jason V., 1514

Wollmann, Gregor P.

Preliminary Analysis of Suspension Bridges, 1

Womack, Kevin C.

Physical Properties of Plywood and Waferboard as Pile Cushion Materials, 615

Wong, Coby S. C.

Analysis of Heavy Metal Contaminated Soils, 1462

Wong, G.

see Sego, D. C., 121

Wong, K. S.

see Goh, A. T. C., 616

Wong, K. Y.

see Chow, Y. K., 681 Wong, S. F.

see Sulapha, P., 976

Wong, W. G.

Polymer Effects on the Vibration Damping Behavior of Cement, 1027

Wong, W. K.

see Karunaratne, G. P., 659

Wong, Y. D.

see Lum, K. M., 1361

Wong, Y. L.

see Lam. S. S. E., 1156

Wood, Laurence

see Lin, Zhuhai, 1151

Woodard, Joan B.

see Gilbert, Paul. H., P.E., 845

Woods, Eddie

Advancing Under London, 1603

Woodward, Clinton B., P.E.

see Jáuregui, David V., 95

Wool, Tim A.

Development of Three-Dimensional Hydrodynamic and Water Quality Models to Support Total Maximum Daily Load Decision Process for the Neuse River Estuary, North Carolina, 1406

Wootton, Isaac A.

Corrosion of Steel Reinforcement in Carbon Fiber-Reinforced Polymer Wrapped Concrete Cylinders,

Woźniak, Margaret

see Marzęda, Joanna, 293

Wright, Leonard T.

see Sample, David J., 1385

Wright, Nigel G.

see Crossley, Amanda J., 741

Wright, Scott

see Damgaard, Jesper, 766

Wrobleski, Michael S.

Identification of Simplified Models Using Adaptive Control Techniques, 1180

Wu, B.

see Lam, S. S. E., 1156

Wu, Chao-Hsiung

Effects of Oxygen on Pyrolysis Kinetics of Tetra Pack, 487

Wu, Fu-Chun

Rolling and Lifting Probabilities for Sediment Entrainment. 704

Wu, Guang-Hao

see Nie, Meng-Xi, 751

Wu, Hui

see Xiao, Yan, 1155

Wu, Jennifer Yuh-Jen

see Feng, Cheng-Min, 1376

Wu. Jinsong

see Zhang, Jianwu, 295

Wu, Jong-Cheng

Experiments on a Full-Scale Building Model using Modified Sliding Mode Control, 325

Wu, Joz

Idempotence and Orthogonality in Relation to Mixed Model Adjustments, 1278

Wu, Ming-Hsien

see Hu, Hsuan-Teh, 1213

Wu, Tongqiang

see Zhu, Zuojin, 1289

Wu, Wei-Zhong

see Xing, Chuan-Hong, 477

Wu, Xiao-Han

Tendon Model for Nonlinear Analysis of Externally Prestressed Concrete Structures, 1094

Wu, Xiaoyun

see Liu, Wei, 138

Improving the Strength and Ductility of Rectangular Reinforced Concrete Columns through Composite Partial Interaction: Tests, 1199

Wu, Yaping

Matrix Analysis of Shear Lag and Shear Deformation in Thin-Walled Box Beams, 386

Wu, Yih-Min

see Hu, Hsuan-Teh, 1213

Wu, Z. M.

see Law, S. S., 344

Wu. Z. S.

see Xu, B., 97

Wu, Ziwang

see Lai, Yuanming, 124

Wu, Zong

see Hossain, Mustaque, 1334

Wüest, Alfred

see Meier, Werner, 533

Xi. Y.

see Xie, Z., 968

Xi, Yunping

see Ababneh, Ayman, 982

Xia, H.

see Xu, Y. L., 76

Xia, Kang

see Keller, Heather, 1484

Xiang, W.

see Xie, Z., 968

Xiang, Y.

Exact Buckling Solutions for Rectangular Plates under Intermediate and End Uniaxial Loads, 375

Exact Solutions for Buckling of Multispan Rectangular Plates, 304

Ritz Buckling Analysis of Rectangular Plates with Internal Hinge, 358

Xiang, Zhihai

Optimal Layout of Displacement Measurements for Parameter Identification Process in Geomechanics, 32

Xiao, Yan

Retrofit of Reinforced Concrete Columns using Partially Stiffened Steel Jackets, 1155

Xiao, Yugang

Ultimate Compressive Strength of Aluminum Plate Elements, 1226

Xie, Huikai

Integrated Microelectromechanical Gyroscopes, 45

Xie, Mowen

Geographic Information Systems-Based Three-Dimensional Critical Slope Stability Analysis and Landslide Hazard Assessment, 687

Xie. Z.

ASR Potentials of Glass Aggregates in Water-Glass Activated Fly Ash and Portland Cement Mortars, 968

Xing, Chuan-Hong

Excess Sludge Production in Membrane Bioreactors: A Theoretical Investigation, 477

Xii. B.

Neural Networks for Decentralized Control of Cable-Stayed Bridge, 97

Xu, Fangxiang

Retention and Distribution of 1-Naphthol and Naphthol Polymerization Products on Surface Soils, 565

Vu Lei

Manual Procedures for Least-Weight Design of King-Post Truss Systems, 1513

Xu, Ming-yi

see Chen, Sheng-hong, 672

Xu. Y. L.

Dynamic Response of Suspension Bridge to High Wind and Running Train, 76 Xu, Yang

see Zhaowei, Sun. 42

Xu. Yanhai

see Zhang, Jianwu, 295

Xu, Y.L.

see Yang, Z., 1105

Xu. Z. X.

Estimating Basin Evapotranspiration using Distributed Hydrologic Model, 807

Yakel, Aaron, ed.

see Azizinamini, Atorid, ed., 1622

Yalcin, Cem

see Saatcioglu, Murat, 1186

Yalçinkaya, Mualla

Dynamic Model for Monitoring Landslides with Emphasis on Underground Water in Trabzon Province, Northeastern Turkey, 1274

Monitoring Crustal Movements in West Anatolia by Precision Leveling, 1262

Yalla, Swaroop K., S.M.

Semiactive Tuned Liquid Column Dampers: Experimental Study, 1177

Yam, Michael C. H.

Local Web Buckling Strength of Coped Steel I Beams, 1084

Yamada, Seishi

see Uchiyama, Manabu, 361

Yamamuro, Jerry A.

see Shapiro, Saul, 579

Yamamuro, Jerry A., P.E.

see Reza, Farhad, P.E., 1018

Yamasaka, Masashige

see Mizumura, Kazumasa, 771

Yan, Q. S.

see Xu. Y. L., 76

Yan, Yeou-Lih

see Wu, Chao-Hsiung, 487

Yanalak, M.

Digital Elevation Model Based Volume Calculations using Topographical Data, 1264

Effect of Gridding Method on Digital Terrain Model Profile Data Based on Scattered Data, 133

Yang, Chao

see Luk, James Y. K., 1288

Yang, Henry T. Y.

see Wrobleski, Michael S., 1180

Yang, J.

Dynamic Mathematical Modeling of an Isothermal Three-Phase Reactor: Model Development and Validation, 513

Yang, J. C.

see Hsieh, T. Y., 756

Yang, J. N.

see Agrawal, A. K., 1169

see He, W. L., 1175

Yang, Jiandong

see Lai, Xu, 283

Yang, Ke

see Li, Q. S., 432

Yang, Q

see Huang, Wenrui, 413

Yang, S. C.

see Park, J. W., 1164

Yang, Shu-li

see Barros, Mario T. L., 1397

Yang, Shu-Qing

Total Load Transport Formula for Flow in Alluvial Channels, 699

Yang, Shyh Chaur

see Lee, How Ming, 537

Yang, Xudong

see Ren, Hongze, 70

Yang, You-Fu

see Han, Lin-Hai, 1119

Yang, Yuan-Xi

see Guo, Jian-Feng, 1272

Yang, Yuwen

see Yuan, Jian-Xin, 26

Yang, 7

Experimental Seismic Study of Adjacent Buildings with Fluid Dampers, 1105

Yang, Z. F.

see Zhang, L. Q., 431

Yang, Zhaohui

Computational Model for Cyclic Mobility and Associated Shear Deformation, 688

Yao, D.

see Fishman, K. L., 660

Yao, M

Three-Dimensional Discrete Element Method of Analysis of Clays, 347

Yao, Y

see Tan, K. H., 1203

Yaralioglu, Goksen G.

see Ergun, Arif S., 46

Yashinsky, Mark, P.E.

Shaken, 1555

Yasuda, Youichi

see Ohtsu, Iwao, 790

Yasuhara, Kazuya

Postcyclic Degradation of Strength and Stiffness for Low Plasticity Silt, 649

Yates, J. K.

Master Builder Project Delivery System and Designer Construction Knowledge, 269

Yates, Rhonda

see Van Arsdale, Roy, 1518

Yazdani, Nur, P.E.

see Jin, Yingqin "Elaine", 1033

see Wootton, Isaac A., 193

Yazdani, S.

see Katti, Dinesh R., 605

Ye, Sudong

Effects of Tariff Design in Rish Management of Privately Financed Infrastructure Projects, 266

Yeh, William W-G.

see Barros, Mario T. L., 1397

Yeh, William W .- G

see Tu, Ming-Yen, 1388

Yen, Ben Chie

see Lian, Yanqing, 707

Yen, Hung-Kl

Bioslurping Model for Assessing Light Hydrocarbon Recovery in Contaminated Unconfined Aquifer. 1: Simulation Analysis, 1474

Bioslurping Model for Assessing Light Hydrocarbon Recovery in Contaminated Unconfined Aquifer. II: Optimization Analysis, 1475

Yen, Tsong

see Tang, Chao-Wei, 1160

Yeo, K. S.

see Karunaratne, G. P., 659

Yerkes, Eugene, P.E.

see Chenettler, Jack, P.E., 1572

Yeung, M. R.

see Chen, Z. H., 37

Yi, Jaeeung

Dynamic Optimal Unit Commitment and Loading in Hydropower Systems, 1415

ilmaz, Olca

Solidification/Stabilization of Hazardous Wastes Containing Metals and Organic Contaminants, 485

Yin, Ying-Zhi

see Li, Guo-Qiang, 1254

Ying, Y. C.

see Lu, Ming, 259

Yodsudjai, Wanchai

see Otsuki, Nobuaki, 1014

Yokokawa, Seiji

see Yasuhara, Kazuya, 649

Yokovama, K.

see Xu, B., 97

Yonge, David R.

see Barber, Michael E., 811

Yoo, Chai H.

see Lee, Sung C., 1243

see Tindal, Troy T., 77

Yoo, Chulsang

Estimating Characteristics of Rainfall and their Effects on Sampling Schemes: Case Study for Han River Basin, Korea, 814

see Kim, Tae-Woong, 826

Yoon, Chongyul

see Kim, Tae-Hoon, 1201

see Kim, Tae-Hoon, 1202

Yoon

2003 ASCE TRANSACTIONS

Yoon, Dong Y.

see Lee, Sung C., 1243

Yoon, Jaeyoung

Probabilistic Solution to Stochastic Overland Flow Equation, 805

Yoon, Y.

see Snyder, S., 1486

You, Horng-Yuh

see Cheng, Min-Yuan, 206

Young, Ben

Cold-Formed Steel Channels Subjected to Concentrated Bearing Load, 1181

Compression Tests of Channels with Inclined Simple Edge Stiffeners, 1222

Experimental Investigation of Cold-Formed Stainless Steel Columns, 1102

Young, C. Bryan

Sampling Adjustment Factors for Rainfall Recorded at Fixed Time Intervals, 832

Young, D. L.

see Capart. H., 733

Yu, Cheng

Local Buckling Tests on Cold-Formed Steel Beams, 1742

Yu, Chi Yuang

see Lee, Hsiang Yi, 1292

Yu, Guoliang

Aspect Ratio to Maximize Sediment Transport in Rigid Bank Channels, 788

Yu. H. S.

see Merifield, R. S., 602

Yu, Ling

see Li, Heng, 275

Yu, Qing

see Chatterjee, Aveek N., 44

Yu, Wenbin

see Lai, Yuanming, 124

Yu, Wenbing

see Lai, Yuanming, 126

Yuan, Ching

see Weng, Chih-Huang, 1464

Yuan, Haiming

see Juang, C. Hsein, 584

Yuan, Jian-Xin

New Approach to Limit Equilibrium and Reliability Analysis of Soil Nailed Walls, 26

Yuan, Robert L.

see Choi. Yeol. 195

Yue, Z. Q.

see Zhang, L. Q., 431

Yuen, Ka-Veng

Updating Properties of Nonlinear Dynamical Systems with Uncertain Input, 285

Yuen, R. K. K.

see Lim, C. W., 379

Yüksel, Ebubekir

see Muslu, Yilmaz, 899

Yun, Yong Gib

Development of Boundary Structures for Complex-Shaped Buildings, 59

Yuval

see Hsieh, William W., 1394

Zagona, Edith A.

see Neumann, David W., 523

Zaheer, Muhammad

see Shan, Jie, 1268

Zaiss, Hermann

see Koussis, Antonis D., 799

Zallen, Rubin M.

Engineering Considerations for Life-Slab Construction, 1614

Zaman, M.

see Tarefder, R. A., 980

Zander, Amy K.

see Cleveland, Christopher T., 9

Zaramella, Mattia

see Marion, Andrea, 496

Zararis, Prodromos D.

Shear Compression Failure in Reinforced Concreted Deep Beams, 1137

Zarif, Jamal El

Evaluating a Detection and Warning System to Deter No-Passing Zone Violations, 1354

Zdravković, L.

Numerical Study of the Effect of Preloading on Undrained Bearing Capacity, 12

Zecchin, Aaron C.

see Maier, Holger R., 1399

Zech, Y.

see Capart, H., 733

Zelasko, Steve

Competitive Bid versus Negotiated Bid in Commercial Construction Industry—One Contractor's Perspective, 1506

Zeng, Guang-Ming

see Li, Jian-Bing, 1473

Zeng, S. X.

ISO 14000 and the Construction Industry: Survey in China, 951

Zeng, Wei

see Osidele, Olufemi O., Res. Assoc., 1411

Zenkner, Günther

Island in the Mur, 1591

Zerihun, D.

Performance Indices for Surface N Fertigation, 878

Zeroka, Daniel

see Moo-Young, Horace, 551

Zha, Yufeng

Experimental and Numerical Prediction of Collapse of Flatbar Stiffeners in Aluminum Panels, 1101

Zhang, Benzhao

see Zhang, Jinsuo, 373

Zhang, Burong

Laboratory Evaluation of Fiber-Optic Sensors for Strain Monitoring, 1006

Zhang, H. M.

see Ge. Y. E., 1314

Zhang, Hong

Application of Fuzzy Logic to Simulation for Construction Operations, 131

Zhang, J.

Model for Nonlinear Thermal Effect on Pavement Warping Stresses, 1366

Zhang, James S.

Fiber-Sizing-Based Enhancement of Materials Durability for Seismic Retrofit, 178

Zhang, J.-B.

Shallow Turbulent Flows by Video Imaging Method, 408

Zhang, Jian

Stabilization/Solidification of High Mercury Wastes with Reactivated Carbon, 1465

Zhang, Jian She

see Zhong, Deng Hua, 254

Zhang, Jianhong

see Lo, Irene M. C. Lo, 1480

Zhang, Jianwu

Buckling and Postbuckling of Antisymmetrically Laminated Cross-Ply Shear-Deformable Cylindrical Shells under Axial Compression, 295

Zhang, Jing

see Swaddiwudhipong, Somsak, 1029

Zhang, Jinsuo

Dean Equations Extended to a Rotating Helical Pipe Flow, 373

Zhang, Jun, ed.

Deepwater Mooring Systems: Concepts, Design, Analysis, and Materials, 1612

Zhang, L. M.

Behavior of Laterally Loaded Large-Section Barrettes, 639

Zhang, L. Q.

Stress Solution of Multiple Elliptic Hole Problem in Plane Elasticity, 431

Zhang, Lixiang

see Li, Q. S., 432

Zhang, Ning

Integrated Electronic Commerce Model for the Construction Industry, 263

Zhang, Ray Ruichong

Hilbert-Huang Transform Analysis of Dynamic and Earthquake Motion Recordings, 378

Zhang, Shujuan

see Lai, Yuanming, 124

Zhang, Wei-Xian

see Glazier, Robert, 1567

Zhang, Xiong

see Briaud, Jean-Louis, 634

Zhang, Zhanming

see Sun, Lu, 1296

Zhao, Bin

see Ren, Hongze, 70

Zhao, Huan

see Davidson, Rachel A., 846

Zhao, L. Y.

see Zheng, J. J., 1022

Zhao, Ming

Efficient Quasi-Two-Dimensional Model for Water Hammer Problems, 797

Zhao, Tong

Valuing Flexibility in Infrastructure Expansion, 850

Zhao, Xiao-Ling

see Elchalakani, Mohamed, 1133

see Han, Lin-Hai, 1119

Zhao, Yan-Gang System Reliability Assessment by Method of Moments, 1215

Zhao, Yuan

see Roddis, W. M. Kim, 101

Zhaowei, Sun

Active Magnetic Control Methods for Small Satellite, 42

Zheng, J. J.

Simulation of Two-Dimensional Aggregate Distribution with Wall Effect, 1022

Zheng, Juanrong

Performance Characteristics of Soil-Cement from Industry Waste Binder, 1035

Zheng, We

Numerical Simulation of Rain Scavenging on Large Release of Water-Soluble Gases, 450

Zheng, Xiaojing

Large-Deflection Deformation of Ferromagnetic Plates in Magnetic Fields, 311

Zhong, Deng Hua

New Method for Calculating Path Float in Program Evaluation and Review Technique (PERT), 254

Zhou, Fujie

see Chen, Dar-Hao, 1043

Zhou, Guoyun

see Xie, Mowen, 687

Zhou, Li

Adaptive Fuzzy Control for Nonlinear Building-Magnetorheological Damper System, 1171

Zhou, Yi

Aerodynamic Loads on Tall Buildings: Interactive Database, 1123

Aeroelastic Balance, 315

Zhou, Yun, P.E.

Technical, Managerial, and Organizational CHanges in Adapting an E-Commerce Model in Civil Engineering Design and Consulting Services, 937

Zhu, X. O.

Dynamic Behavior of Orthotropic Rectangular Plates under Moving Loads, 292

Zhu, Yuanlin

see Wu, Yaping, 386

Zhu, Zuojin

Two-Phase Fluids Model for Freeway Traffic Flow and its Application to Simulate Evolution of Solitons in Traffic, 1289

Zi, Goangseup

Decontamination of Radionuclides from Concrete by Microwave Heating. II: Computations, 369

see Bažant, Zdeněk P., 368

Ziemkiewicz, Paul F.

see Siriwardane, Hema J., 549

Zimmer, D.

see Hartani, T., 890

Zimmerman, David C.

see Boxoen, Thomas, 1194

Zimmerman, Wayne

see Manvi, Ram, 51

Zisk, Burton I., ed.

see Haimes, Yacov Y., ed., 1636

Zisk, Grace Ivry, ed.

see Haimes, Yacov Y., ed., 1636

Zitomer, Daniel H.

Bridge Construction in Guatemala: Linking Social Issues and Engineering, 1071

Zitomer, Daniel Harris

Propylene Glycol Deicer Biodegradation Kinetics: Anaerobic Complete-Mix Stirred Tank Reactors, Filter, and Fluidized Bed, 456

Zoeckler, Jeff R.

Aerobic Biodegradation of Methyl Tert-Butyl Ether in Gasoline-Contaminated Aquifer Sediments, 520

Zoppou, C.

Explicit Schemes for Dam-Break Simulations, 694

Zorman, Christian A.

see Mitchell, Jay S., 43

Zornberg, Jorge G.

Analysis and Design of Evapotranspirative Cover for Hazardous Waste Landfill, 620

Strain Distribution within Geosynthetic-Reinforced Slopes, 581

Zou, Guiping

see Qiao, Pizhong, 1097

Zou, Jun

see Chen, Jack, 47

Zou, Patrick X. W.

Flexural Behavior and Deformability of Fiber Reinforced Polymer Prestressed Concrete Beams, 186

Long-Term Deflection and Cracking Behavior of Concrete Beams Prestressed with Carbon Fiber-Reinforced Polymer Tendons, 177

Long-Term Properties and Transfer Length of Fiber-Reinforced Polymers, 158 Theoretical Study on Short-Term and Long-Term Deflections of Fiber Reinforced Polymer Prestressed Concrete Beams, 187

Zuehlke, Sebastian

see Verstraeten, Ingrid M., 1489

Zundel, Alan K.

see Noman, Nawajish Sayeed, 1419

Zweber, Jeffrey V.

see Khot, Narendra S., 40

Zytner, R. G.

see Harper, B. M., 532

